Valley Water

Safe, Clean Water

and Natural Flood Protection

Year 7
FY 2019–2020

Safe, Clean Water
and Natural Flood Protection
Fiscal Year 2019–2020 | Year 7

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November 20, 2020

Valley Water
Clean Water • Healthy Environment • Flood Protection

Valley Water

Safe, Clean Water and Natural Flood Protection Fiscal Year 2019–20 Annual Report

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Valley Water

Safe, Clean Water and Natural Flood Protection Fiscal Year 2019–20 Annual Report

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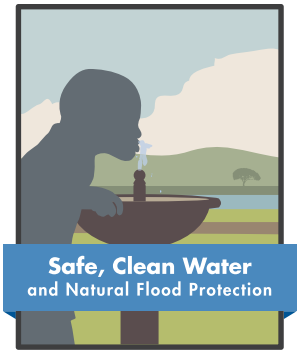

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

November 2020

Fiscal Year 2019-20 (FY20) marked the seventh year of the 15-year Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program) and coincided with the COVID-19 pandemic reshaping the daily lives of people around the world. Despite the health crisis and shelter-in-place in our county, Santa Clara Valley Water District (Valley Water) employees remain focused on delivering safe, clean water to our community, and protecting residents and businesses from flooding. This report (Year 7 annual report) presents a status update on the implementation of projects during FY20.

On November 6, 2012, voters approved the Safe, Clean Water Program as a countywide special parcel tax for 15 years with a sunset date of June 30, 2028. This program replaced the Clean, Safe Creeks and Natural Flood Protection Plan, which voters approved in November 2000.

The Safe, Clean Water Program addresses the following needs, values and priorities as identified by Santa Clara County stakeholders:

Priority A: Ensure a Safe, Reliable Water Supply

Priority B: Reduce Toxins, Hazards and Contaminants in our Waterways

Priority C: Protect our Water Supply from Earthquakes and Natural Disasters

Priority D: Restore Wildlife Habitat and Provide Open Space

Priority E: Provide Flood Protection to Homes, Businesses, Schools and Highways

Each year, Valley Water prepares a report providing a progress update for each of these Program priorities, along with fiscal year accomplishments.

To date, Valley Water has completed five projects and multiple key performance indicators (KPIs) for various projects and laid the groundwork for many other projects to be completed in the coming years. Highlights of FY20 accomplishments consistent with Valley Water's core mission areas include:

Water Supply

- **Pipeline Reliability:** Valley Water completed planning, preliminary design and 30% design for three (3) of the four (4) line valves. We also completed data collection and assessment of optimal valve location and preliminary design for the fourth line valve. Design development for all four (4) line valves will continue in FY21. Once completed, this project will improve water supply reliability by improving the infrastructure delivering safe, clean water.

Flood Protection

- **Permanente Creek Flood Protection:** In February 2020, Valley Water completed the McKelvey Park Flood Detention Facility in Mountain View with the construction of sunken baseball fields. The new baseball

fields will double as a place to contain floodwaters when Permanente Creek overflows. Meanwhile, construction work on the Rancho San Antonio Flood Detention Facility site, which is the final element of the flood protection project, is estimated to be completed in April 2021. Once completed, this project will provide 1% or 100-year flood protection to approximately 1,664 parcels in Mountain View and Los Altos.

- **Upper Llagas Creek Flood Protection:** In September 2019, Valley Water began construction on Phase 1 of the project, with completion of flood protection improvements scheduled for May 2022. Furthermore, on January 14, 2020, the Valley Water Board modified the local-funding only key performance indicator (KPI) to increase the length of the project to be constructed with local funds from approximately 2.9 miles to 4.9 miles. This modification will also keep the project moving forward while maximizing the potential for funding from federal and state agencies.

- **Coyote Creek Flood Protection Project:** In December 2019, the Board voted to provide local funding dollars to construct the larger preferred project. To accomplish this goal, the Board reallocated $23 million from Project E4: Upper Penitencia Creek Flood Protection Project to facilitate the construction of the Coyote Creek Project. Additionally, some of the project measures were expedited as part of the Federal Energy Regulatory Commission Order Compliance Project for Anderson Reservoir and Dam.

- **Sediment Removal and Vegetation Control:** Valley Water completed 15 sediment removal projects, removing 49,641 cubic yards of sediment to reduce flood risks by ensuring flood protection projects continue to provide the protection they were designed to give. The Safe, Clean Water Program funds 14% of this work. Valley Water completed 1,016 acres of in-stream vegetation management to reduce flood risk on 161 miles of streams throughout the county.

Stewardship

- **Fish Habitat Improvement:** In August 2019, Valley Water completed the Los Gatos Creek Large Woody Debris Placement and Gravel Augmentation Project, located just downstream of Highway 17, in the City of Campbell. Gravel and large woody debris placement restores the natural ecosystem function and improves fish habitat.

- **Partnerships for the Conservation of Habitat Lands:** Valley Water completed the project by providing $8 million to the Santa Clara Valley Habitat Agency (VHA) for land acquisition to preserve a population of the endangered species Coyote ceanothus, a perennial shrub that is only found in three locations in Santa Clara County. The largest population of Coyote ceanothus grows at Anderson Reservoir and the conservation of this habitat land will offset the impacts from the Anderson Dam Seismic Retrofit Project. The property will be enrolled into the VHA reserve system and managed in perpetuity to preserve this endangered plant species.

- **Trash Removal:** Of the seven (7) projects in Priority B, five (5) include trash removal components to reduce and remove contaminants in our local streams and bay. This work is accomplished not only by Valley Water but with the help of volunteers and grantees alike. In FY20, 807 tons of trash were removed from our waterways.

- **Safe, Clean Water Stewardship Grants:** Through Priorities A, B and D, Valley Water awarded more than $1.0 million in grants and partnerships. These dollars were for local grantees for projects addressing issues such as restoring wildlife habitat, watershed stewardship awareness, stormwater pollution reduction and trash removal and reduction along waterways.

To ensure transparency and accountability, the Board established an Independent Monitoring Committee (IMC) to track the program's progress and to ensure the outcomes are achieved in a cost-efficient manner. Each year, the Board authorizes the finalization of the prior fiscal year's annual report and submittal to the IMC for its review. The Year 6 annual report was reviewed by the IMC and recommendations for improving the report were presented to the Board. These recommendations have been incorporated into the Year 7 annual report.

The accomplishments presented in this report would not have been achieved without Valley Water's dedicated employees, each of whom is committed to the success of the Safe, Clean Water Program. Despite the impacts of the current public health crisis, Valley Water will continue critical operations in support of our core mission of providing clean, safe water, essential infrastructure, water supply, flood protection projects and creek maintenance.

The FY20 annual report and independent audit are available to the public at https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program/safe-clean-water-program-archive. Also available is the Safe, Clean Water 5-Year Implementation Plan for FYs19-23, which provides direction for the second five (5) years of the 15-year program.

We welcome your inquiries and insightful comments on the FY20 annual report.

Sincerely,

Rick L. Callender, Esq.
Chief Executive Officer
Valley Water

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List of Abbreviations

Abbreviation	Description
AAC	Adopt-A-Creek
ACWA	Association of California Water Agencies
AMI	Advanced Metering Infrastructure
ADSRP	Anderson Dam Seismic Retrofit Project
AQPI	Advanced Quantitative Precipitation Information
AVW	Access Valley Water
BART	Bay Area Rapid Transit
BASMAA	Bay Area Stormwater Management Agencies Association
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best management practice
BRRIT	Bay Restoration Regulatory Integration Team
Cal-IPC	California Invasive Plan Council
CAP	Continuing Authorities Program
CASQA	California Stormwater Quality Association
CDFW	California Department of Fish and Wildlife
CCNEET	Coyote Creek Native Ecosystem Enhancement Tool
CEO	Chief Executive Officer
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFS	Cubic feet per second
CIP	Capital Improvement Program
CLOMR	Conditional Letter of Map Revision
CRAM	California Rapid Assessment Method
CRS	Community Rating System
CSC	Clean, Safe Creeks and Natural Flood Protection Plan
CY	Cubic yards
DEIR	Draft Environmental Impact Report
DSOD	Division of Safety of Dams
EAP	Emergency Action Plan
EOC	Emergency Operations Center

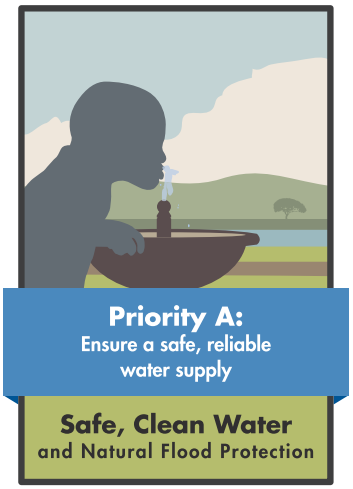
List of Abbreviations

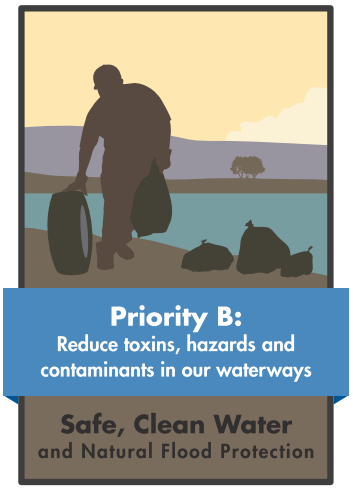
EIA	Economic Impact Area
EIR	Environmental Impact Report
ESA	Endangered Species Act
FCSA	Feasibility Cost Share Agreement
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FY	Fiscal year
GI	General Investigation
GIS	Geographic Information Systems
GSI	Green Stormwater Infrastructure
IMC	Independent Monitoring Committee
IRWMP	San Francisco Bay Area Integrated Regional Water Management Plan
KPI	Key performance indicator
LEDPA	Least Environmentally Damaging Practicable Alternative
LFA	Limiting Factors Analysis
LOMR	Letter of Map Revision
LWD	Large woody debris
MAC	Multi-Agency Coordination
MidPen	Mid-Peninsula Regional Open Space District
MOA	Memorandum of agreement
MOU	Memorandum of understanding
NASA	National Aeronautics and Space Administration
NCCP	Natural Communities Conservation Plan
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWR	National Wildlife Refuge
O&M	Operations and maintenance
RFP	Request for proposal
RWQCB	Regional Water Quality Control Board

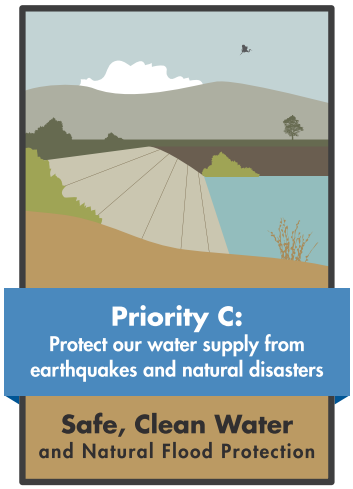
List of Abbreviations

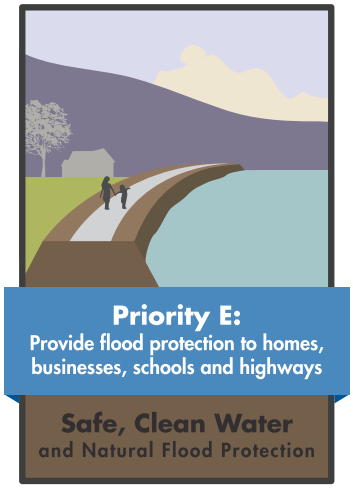
RWRC	Recycling & Waste Reduction Commission
SBSPRP	South Bay Salt Pond Restoration Project
SCC	Santa Clara County
SCPP	Stream Corridor Priority Plan
SCVURPPP	Santa Clara Valley Urban Runoff Pollution Prevention Program
SFCJPA	San Francisquito Creek Joint Powers Authority
SFEI	San Francisco Estuary Institute
SFPUC	San Francisco Public Utilities Commission
SJPD	San José Police Department
SMP	Stream Maintenance Program
SPRR	Southern Pacific Railroad
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resource Plan
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Services
USGS	U.S. Geological Survey
Valley Water	Santa Clara Valley Water District
VHA	Santa Clara Valley Habitat Agency
VHP	Santa Clara Valley Habitat Plan
VTA	Santa Clara Valley Transportation Authority

Safe, Clean Water and Natural Flood Protection









Fiscal Year 2019–2020 Annual Report

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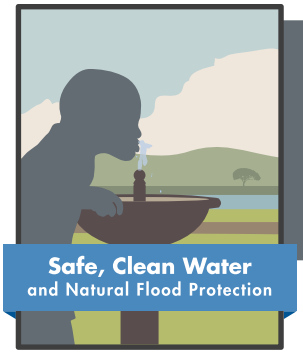


FY 2019–2020 Annual Report

Safe, Clean Water and Natural Flood Protection

Valley Water

PROGRAM SUMMARY

The Safe, Clean Water and Natural Flood Protection Program (Safe, Clean Water Program) is a 15-year strategy to ensure uninterrupted water resources services in Santa Clara County. The Program was developed through more than 18 months of community collaboration, with input from more than 16,000 residents and stakeholders, to prepare for the scheduled sunset of Clean, Safe Creeks and Natural Flood Protection Plan (CSC) funding. The result of this effort is a program that fulfills our community's top priorities to:

Priority A: Ensure a Safe, Reliable Water Supply

Priority B: Reduce Toxins, Hazards and Contaminants in our Waterways

Priority C: Protect our Water Supply from Earthquakes and Natural Disasters

Priority D: Restore Wildlife Habitat and Provide Open Space

Priority E: Provide Flood Protection to Homes, Businesses, Schools and Highways

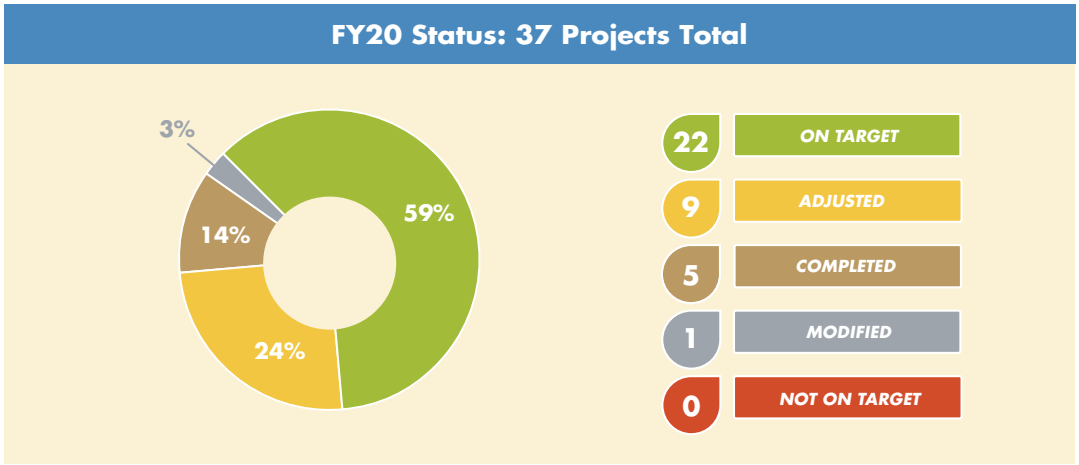
Santa Clara County voters passed the Safe, Clean Water ballot measure in November 2012 by an overwhelming majority – nearly 74%. The Safe, Clean Water Program extends funding at the same parcel tax rate approved under the previous CSC plan, and ensures a seamless continuation of critical water-related services to Santa Clara County. The 2012 Board resolution providing for the special parcel tax and the ballot language, along with all adjustments and modifications to the original Safe, Clean Water Program, can be found at: https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program/safe-clean-water-program-archive.

This report is the seventh of 15 annual reports to be prepared for the Safe, Clean Water Program and provides project status towards accomplishing Program key performance indicators (KPIs) and the targets in the 5-Year Implementation Plan:

- On Target – Status indicates the project is on track to meet targets;
- Adjusted – Status indicates the potential that targets will not be met and implementation required a schedule adjustment (future year status will be based upon the adjusted schedule);
- Not on Target – Status indicates that the target has not been or will not be met;
- Modified – Status indicates the Board formally modified the project following a public hearing (future year status' will be based upon the modified project targets);
- Completed – Status indicates that the project has been completed and the KPIs have been met.

There are 37 projects under the Safe, Clean Water Program. A significant number of these projects are designed to run for the life of the program and will, therefore, be completed only at the end of the program. As indicated in Table 1 (p. 3), approximately 59% (22 projects) are on target ( ); 24% (9 projects) required schedule adjustments ( ); 14% (5 projects) were completed ( ); and 3% (1 project) were modified ( ). See Graph 1 (p. 2).

Graph 1



For Fiscal Year 2019-20 (FY20), the adjusted budget for the Safe, Clean Water Program totaled $160.2 million. Actual funds expended and encumbered as of June 30, 2020, were 91.9 million, approximately 57% of the Safe, Clean Water Program's adjusted budget. Underspending was primarily due to delays in flood protection capital project construction and real estate acquisitions resulting from lack of federal funding, ongoing negotiations with various resources agencies for regulatory permits and design changes as a result of partnerships for the following capital flood protection projects: Upper Guadalupe River (E8); and Sunnyvale East and West Channels (CSC). Additionally, the underspending was due to the impacts of the COVID-19 pandemic on operations and capital projects such as B1: Impaired Water Bodies Improvement; B4: Good Neighbor Program: Encampment Cleanup; D1: Management of Revegetation of Projects; D2: Revitalize Stream, Upland and Wetland Habitat; D4: Fish Passage and Habitat Improvement; D6: Creek Restoration and Stabilization and E4: Upper Penitencia Creek Flood Protection Project.

To address recommendations made by the Independent Monitoring Committee (IMC), Valley Water utilizes a rating system for capital projects that include confidence levels for schedule, funding, permits and jurisdictional complexity (the level to which a project's deliverables can be impacted by other entities or jurisdictions). By applying a confidence level to each of these topics, the IMC and community will be able to identify the areas of concern for each project that could impact the probability for the project to remain On Target. The confidence levels are addressed under the Opportunities and Challenges section for each of the capital projects. Appendix D can be referenced to delve into the confidence levels for each capital project, as well as demonstrate the jurisdictional complexity related to funding sources, regulatory permitting and coordination between cities, counties and other agencies. Listed below are the three (3) confidence levels and their definitions:

- **High** – Applies to projects that have achieved the following: received full funding, received regulatory permits, met schedule milestones (and will continue to move forward on schedule) and, if applicable, jurisdictional complexity issues have been resolved.
- **Moderate** – Applies to projects that are in the process of the following: receiving funding from other sources, receiving permits, recommending the Board approve a schedule adjustment and, if applicable, resolving jurisdictional complexity issues.
- **Low** – Applies to projects that have a high probability of experiencing or already have been denied funding, denied permits, delayed in schedule and, if applicable, jurisdictional complexity issues that are impacting completion of the project.

In response to FY19 IMC recommendations, the individual project Financial Summary tables now include the annual adopted budget and the annual budget adjustments besides the annual adjusted budget. For further project and contact information, visit:
https://www.valleywater.org/project-updates/safe-clean-water-and-natural-flood-protection-program.

Table 1

Project	Project Description	Status
Priority A: Ensure a Safe, Reliable Water Supply		
A1	Main and Madrone Avenue Pipelines Restoration	COMPLETED
A2	Safe, Clean Water Partnerships and Grants	ON TARGET
A3	Pipeline Reliability Project	ADJUSTED
Priority B: Reduce Toxins, Hazards, and Contaminants in our Waterways		
B1	Impaired Water Bodies Improvement	ON TARGET
B2	Interagency Urban Runoff Program	ON TARGET
B3	Pollution Prevention Partnerships and Grants	ON TARGET
B4	Good Neighbor Program: Encampment Cleanup	ON TARGET
B5	Hazardous Materials Management and Response	ON TARGET
B6	Good Neighbor Program: Remove Graffiti and Litter	ON TARGET
B7	Support Volunteer Cleanup Efforts and Education	ON TARGET
Priority C: Protect our Water Supply from Earthquakes and Natural Disasters		
C1	Anderson Dam Seismic Retrofit [1]	ON TARGET
C2	Emergency Response Upgrades	ON TARGET
Priority D: Restore Wildlife Habitat and Provide Open Space		
D1	Management of Revegetation Projects	ON TARGET
D2	Revitalize Stream, Upland and Wetland Habitat	ON TARGET
D3	Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	ON TARGET
D4	Fish Habitat and Passage Improvement	ADJUSTED
D5	Ecological Data Collection and Analysis	ON TARGET
D6	Creek Restoration and Stabilization	ADJUSTED
D7	Partnerships for the Conservation of Habitat Lands	COMPLETED
D8	South Bay Salt Ponds Restoration Partnership	ON TARGET
Priority E: Provide Flood Protection to Homes, Businesses, Schools and Highways		
E1.1	Vegetation Control for Capacity	ON TARGET
E1.2	Sediment Removal for Capacity	ON TARGET
E1.3	Maintenance of Newly Improved Creeks	ON TARGET
E1.4	Vegetation Management for Access	ON TARGET
E2	Emergency Response Planning	ON TARGET
E3	Flood Risk Reduction Studies	ON TARGET
E4	Upper Penitencia Creek Flood Protection	ADJUSTED
E5	San Francisquito Creek Flood Protection	ADJUSTED
E6	Upper Llagas Creek Flood Protection	MODIFIED
E7	San Francisco Bay Shoreline Protection	ON TARGET
E8	Upper Guadalupe River Flood Protection	ADJUSTED
Other Flood Protection Projects and Clean, Safe Creeks Grants Projects		
	Permanente Creek Flood Protection	ADJUSTED
	Sunnyvale East and Sunnyvale West Channels Flood Protection	ADJUSTED
	Berryessa Creek Flood Protection	COMPLETED
	Coyote Creek Flood Protection	ADJUSTED
	Calabazas Creek Flood Protection	COMPLETED
	Clean Safe Creeks Grants Projects	COMPLETED

[1] The project is On Target to meet the Safe, Clean Water Program KPI of providing up to $45 million (2012 dollars) to help restore full operating reservoir capacity. However, the estimated project construction has been revised to begin in October 2022. For more information, see Opportunities and Challenges section on page 55.

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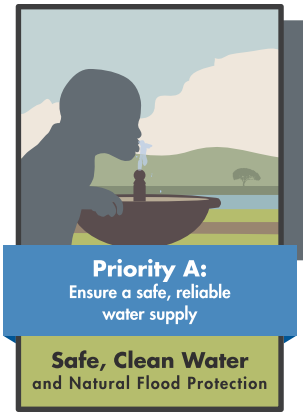


Priority A

Ensure a Safe, Reliable Water Supply

Projects under Priority A will upgrade aging water transmission systems to increase pipeline capacity and reduce the risk of water outages. The priority also provides grants to develop future conservation programs, helps local schools fulfill state mandates for drinking water availability, and provides rebates on nitrate removal systems to improve water quality and safety for private well users.

Project A1
Main Avenue and Madrone Pipelines Restoration

Project A2
Safe, Clean Water Partnerships and Grants

Project A3
Pipeline Reliability Project

Main Ave. pipeline installation.

COMPLETED

Project A1 FY20 Highlights

- Restored the transmission pipeline from Anderson Reservoir to full operating capacity of 37 cfs in June 2019.
- Restored the transmission pipeline to deliver 20 cfs to Madrone Channel in January 2019.

Project A1

Main Avenue and Madrone Pipelines Restoration

This project will restore the Main Avenue and Madrone pipelines to full operating capacity of conveying 10 cubic feet per second (cfs) and 27 cfs, respectively, for a total of 37 cfs from Anderson Reservoir or the Santa Clara Conduit for groundwater recharge via the Main Avenue Recharge Ponds and the Madrone Channel. The project will plan, design, and construct approximately 14,000 linear feet or 2.6 miles of 30-inch to 36-inch diameter pipeline and associated appurtenances.

Benefits

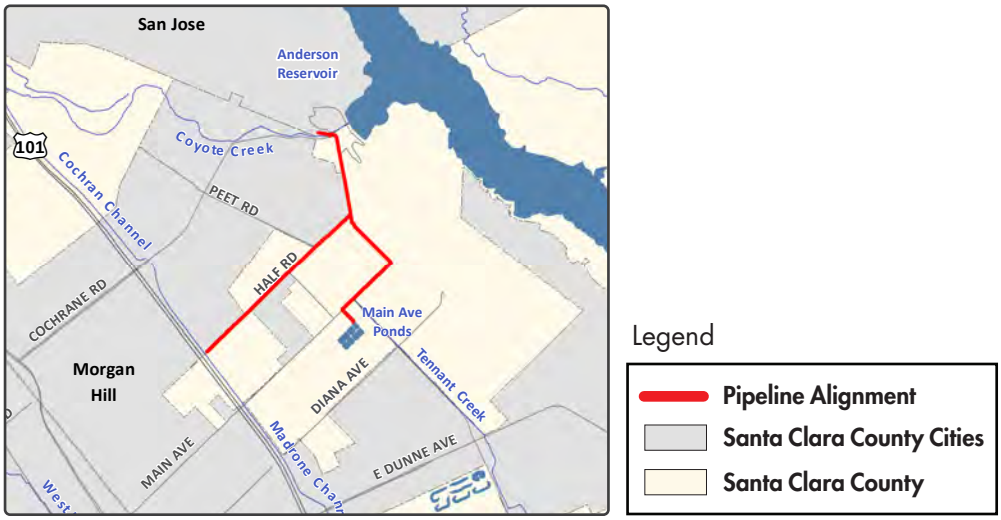
- Increases groundwater recharge by about 2,000 acre-feet per year in South County's Llagas Groundwater Sub-basin, a sufficient water supply for 4,000 families of 5
- Improves operational flexibility
- Maximizes the delivery of imported water to treatment plants supplying drinking water to North County
- Saves energy, reduces operating costs, and cuts CO_2 emissions by reducing dependence on Coyote Pumping Plant

Key Performance Indicators (15-year Program)

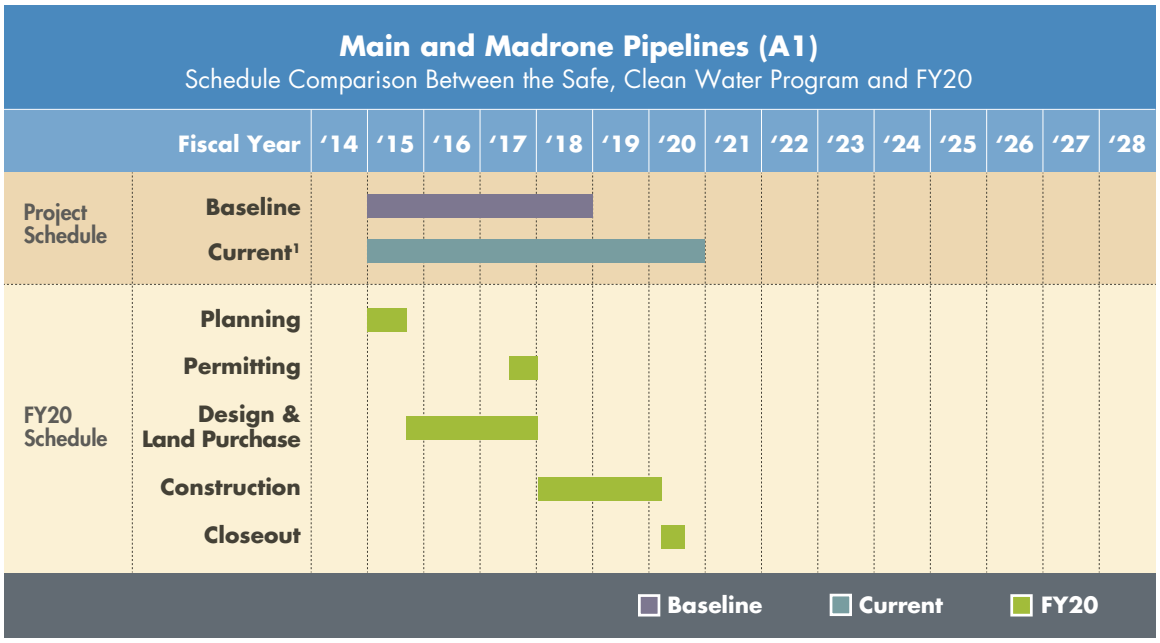
1. Restore transmission pipeline to full operating capacity of 37 cfs from Anderson Reservoir.
2. Restore ability to deliver 20 cfs to Madrone Channel.

Geographic Area of Benefit: Countywide

Project Location



Schedule



[1] Board approved schedule adjustments through the change control process in FY16 & FY19.

Status History

Fiscal Year	Status
FY 14	SCHEDULED TO START
FY 15	ON TARGET
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	COMPLETED

Status for FY20: COMPLETED

Financial Information

Financial Summary ($ Thousands)
A1. Main Avenue and Madrone Pipelines Restoration

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Bduget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$334	($72)	$262	$280	$0	$280	107%	$17,570	99%

Project A2

Safe, Clean Water Partnerships and Grants

Grants and partnerships covered under this project include:

- Grants for agencies and organizations to study and pilot-test new water conservation programs. In FY10, county water conservation stood at 50,600 acre-feet, but this number needs to nearly double by 2030 to meet future demand.
- Grants to help schools in the county provide drinking water dispensers and other potable water devices for students. California Senate Bill 1413 (SB 1413) requires that schools provide access to free, fresh drinking water during mealtimes in food service areas.
- Rebates to private well water users for the installation of point-of-use treatment systems to remove excess nitrate from their drinking water.

Benefits

- Helps Valley Water exceed the conservation goal of 98,500 acre-feet per year by 2030
- Reduces water demands and the need to invest in new or expanded water supply sources and associated infrastructure
- Increases water supply reliability
- Helps schools provide safe, clean drinking water to students and comply with state mandate
- Assists private well water users in maintaining the quality and safety of their drinking water

Key Performance Indicators (15-year Program)

1. Award up to $1 million to test new conservation activities.
2. Increase number of schools in Santa Clara County in compliance with SB 1413 and the Healthy Hunger-Free Kids Act, regarding access to drinking water by awarding 100% of eligible grant requests for the installation of hydration stations; a maximum of 250 grants up to $254,000.
3. Reduce number of private well water users exposed to nitrate above drinking water standards by awarding 100% of eligible rebate requests for the installation of nitrate removal systems; up to $30,000 for all rebates.

Geographic Area of Benefit: Countywide

Water to Go station at Fremont High School.

ON TARGET

Project A2 FY20 Highlights

- No grants awarded for the FY20 grant cycle for KPI #1.
- The Board approved a new $100,000 water conservation mini-grant pilot program.
- Awarded 100% of eligible nitrate treatment system rebate requests totaling $2,357 for five (5) nitrate removal systems.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	MODIFIED
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- In the FY20 grant cycle, Valley Water received three (3) applications, and none were recommended for funding to the Board of Directors (see Opportunities and Challenges section for additional details). The Board approved the staff recommendation.
- Due to the low number of applicants and eligible projects, the Board approved a water conservation mini-grant pilot program on February 11, 2020. Under the pilot program, up to $100,000 of the A2 FY20 grant funding will be available to applicants on a rolling basis through December 31, 2020, or until all available funding is awarded. Similar to the current Board-approved D3 Restore Wildlife Habitat mini-grant program, the A2 water conservation mini-grant pilot program provides up to $5,000 per grant project using a streamlined application and evaluation process. Valley Water staff will return to the Board at the end of the pilot with an evaluation regarding the effectiveness of the program and a recommendation for the Board's consideration regarding whether to continue the water conservation mini-grant program.
- From FY14-19, 18 grant projects were awarded for a total of $956,132. Of these, 13 have been completed, closed or cancelled.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Progress on KPI #2: *(Completed in FY18)*

- This KPI was delivered in FY18.

Progress on KPI #3:

- In FY20, 100% of eligible rebate requests totaling $2,356.90 were awarded to private well users for the installation of five (5) nitrate removal systems. The total amount awarded to date is $13,819.75.
- Valley Water staff had plans to work with the Santa Clara County Department of Public Health to explore outreach to medical and health service providers regarding the Nitrate Treatment System Rebate Program; however, this effort has been delayed due to the COVID-19 pandemic.

Financial Information

Water Conservation Grant Program (KPI #1)

In FY20, 77% of the total annual project budget was expended.

The under expenditure is a result of not awarding grant funds that were allocated in the FY20 budget. The grant funds that were budgeted for FY20 and not awarded will be adjusted into the FY21 program budget to continue the pilot A2 mini-grants program through December 31, 2020, or until all available funding is awarded.

Nitrate Treatment System Rebate Program (KPI #3)

In FY20, 65% of the annual project budget was expended.

The under-expenditure was due to few rebates being requested. See the Opportunities and Challenges section for additional information about the modification to the overall funding allocation for KPI #3.

Financial Summary ($ Thousands)
A2. Safe, Clean Water Partnerships and Grants

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Budget	Budget Adjustements	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan*	% of Plan Spent
				Actual	Encumbrance	Total			
26061008 Water Conservation	$125	($100)	$25	$19	$0	$19	77%	$1,272	53%
26062009 Hydration Stations	$0	$0	$0	$0	$0	$0	0%	$300	101%
26061010 Nitrate Treatment System Rebate	$4	$0	$4	$3	$0	$3	65%	$231	54%
Total	**$129**	**($100)**	**$29**	**$22**	**$0**	**$22**	**75%**	**$1,803**	**61%**

Opportunities and Challenges

Water Conservation Grant Program

Appendix C includes an update on the status of all conservation grants awarded to date. Valley Water will be utilizing the results of some of these grant-funded pilot studies listed in Appendix C to expand its current water conservation program. For example, in FY18, the Board approved moving forward with implementing several new water conservation programs, including advanced metering infrastructure (AMI). Valley Water utilized the results of the various grant-funded AMI pilot studies to design the AMI Program, which was launched in FY20.

A2: Pilot Water Conservation Mini-Grant Program

Over the years, there has been a low number of applicants and eligible projects for the A2: Water Conservation Grant Program. To encourage broader community involvement and increase participation in the water conservation grants program, the Board approved a pilot water conservation mini-grant program on February 11, 2020. The pilot mini-grant program, which mirrors the D3: Restore Wildlife Habitat mini-grant program, provides up to $5,000 per grant project, using a streamlined application and evaluation process. Awarding mini-grant funding for projects that meet A2 criteria would allow grantees to kick-start projects and gain data to support an application for future funding opportunities. The pilot A2 mini-grant program utilizes the current D3 mini-grant program structure, requirements and provisions; requires the A2 benefits; and allocates up to $100,000 of the A2 FY20 grant funding available for A2 mini-grants. The A2: Water Conservation pilot mini-grant program is available through December 31, 2020, or until all available funding is awarded. Staff will return to the Board at the end of the pilot with an evaluation of the program's effectiveness and a recommendation for the Board's consideration regarding whether to continue the A2 mini-grant program.

Safe, Clean Water Grants Program Improvements

During the FY19 Annual Report review, the Independent Monitoring Committee (IMC) recommended evaluating the effectiveness and efficiency of the administration of the Safe, Clean Water Grants Program for Projects A2, B3, B7, D3 and Clean, Safe Creeks grants. Valley Water staff continues to identify areas to streamline the grant administration and grant application processes, especially after multiple staffing transitions and the continued build out of the online grants management system, Fluxx. The Board Audit Committee approved a desk audit of the grants program by an external auditor in FY20. The outcome of the desk audit was the recommendation for a subsequent performance audit for the grants program. Staff will work with the external auditor to identify streamlining opportunities and collect the IMC's requested metrics and will present the performance audit results to the IMC upon completion.

COVID-19 Impacts to Safe, Clean Water Grants Program

In March 2019, the Santa Clara County Public Health Officer issued countywide guidance to slow the spread of COVID-19 in our community. The countywide guidance included a shelter-in-place order and other restrictions, which impacted many grant projects, especially those interfacing with the public and involving work outdoors. Valley Water staff continues to support grantees in navigating project implementation during the pandemic. Grantees are finding creative ways to continue their project activities in alignment with the public health guidance. However, Valley Water staff has received several time-extension requests, schedule adjustment inquiries and delays to agreement executions due to the impacts of COVID-19 on grantees. Staff will continue to monitor these projects and work with grantees to address these unforeseen changes.

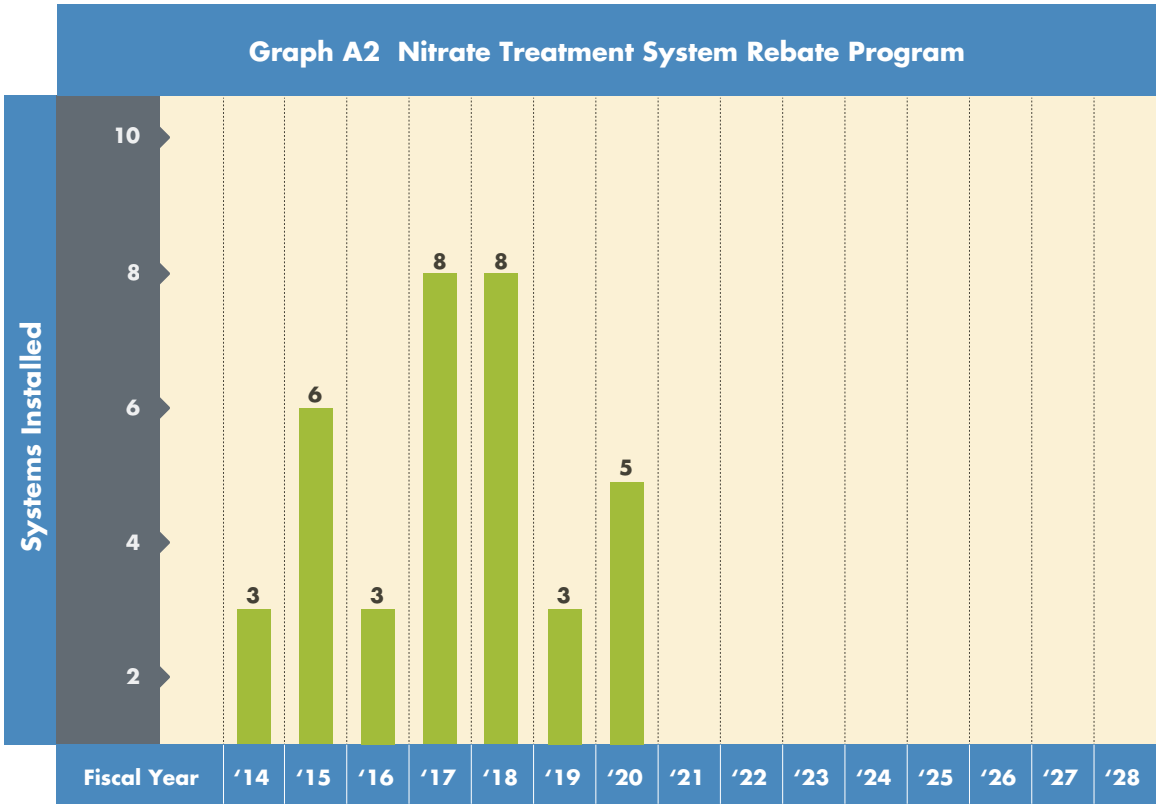
Nitrate Treatment System Rebate Program

On February 25, 2020, following the review of the FY19 annual report, the IMC recommended to the Valley Water Board: "Staff reach out to medical and health service providers in South County regarding the Nitrate Treatment System Rebate program." At the March 10, 2020, meeting, the Board approved the IMC recommendation. Subsequently, staff began working on reaching out to the Santa Clara County Department of Public Health to help

inform Santa Clara County's medical community of the Nitrate Treatment System Rebate Program, focusing on those that serve areas where elevated nitrate is most commonly observed. However, the effort was halted due to the impacts of the COVID-19 pandemic.

Earlier, in February 2018, after years of monitoring outreach improvements, participation incentives and the resulting low participation levels for the Nitrate Treatment System Rebate Program, the IMC recommended a modification to reduce the funding allocation included in the KPI to reflect the community demand for nitrate treatment system rebates. On May 23, 2018, in accordance with the Change Control Process, the Board approved a modification to KPI #3 for the Nitrate Treatment System Rebate Program to reduce funding, with an annual allocation of $4,000 for rebates through the project's 2023 completion date.

While the budget has been reduced to align with demand, Valley Water continues to explore ways to inform well owners about the rebate program and increase participation. FY20 program outreach efforts included direct mailings to well owners through co-promotion with the domestic well testing program, engagement with domestic well testing program customers that have high nitrate levels in their wells, along with updates to the program materials to make them more user-friendly and engaging. Despite these efforts, program participation has not increased.



Plunger Valve at Main Avenue Ponds Vault.

ADJUSTED

Project A3 FY20 Highlights

- Completed planning, preliminary design and 30% design for three (3) of the line valves.
- Completed data collection and assessment of optimal valve location for the fourth line valve.
- Initiated the design for the fourth line valve on the West Pipeline.

Project A3

Pipeline Reliability Project

This project constructs 4 line valves at various locations along the East, West and Snell treated water pipelines in Saratoga, Cupertino and San José. This will allow Valley Water to isolate sections of pipelines for scheduled maintenance and repairs following a catastrophic event, such as a major earthquake.

Benefits

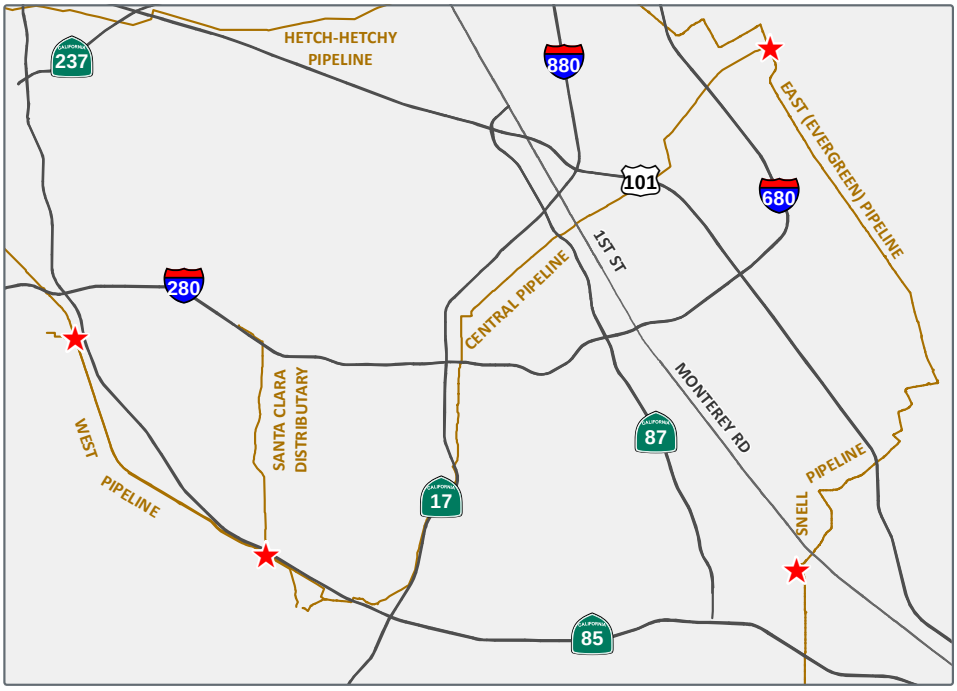
- Supports shorter service interruption in the case of a pipeline break
- Provides operational flexibility for pipeline maintenance work
- Improves drinking water reliability

Key Performance Indicator (15-year Program)

1. Install 4 new line valves on treated water distribution pipelines.

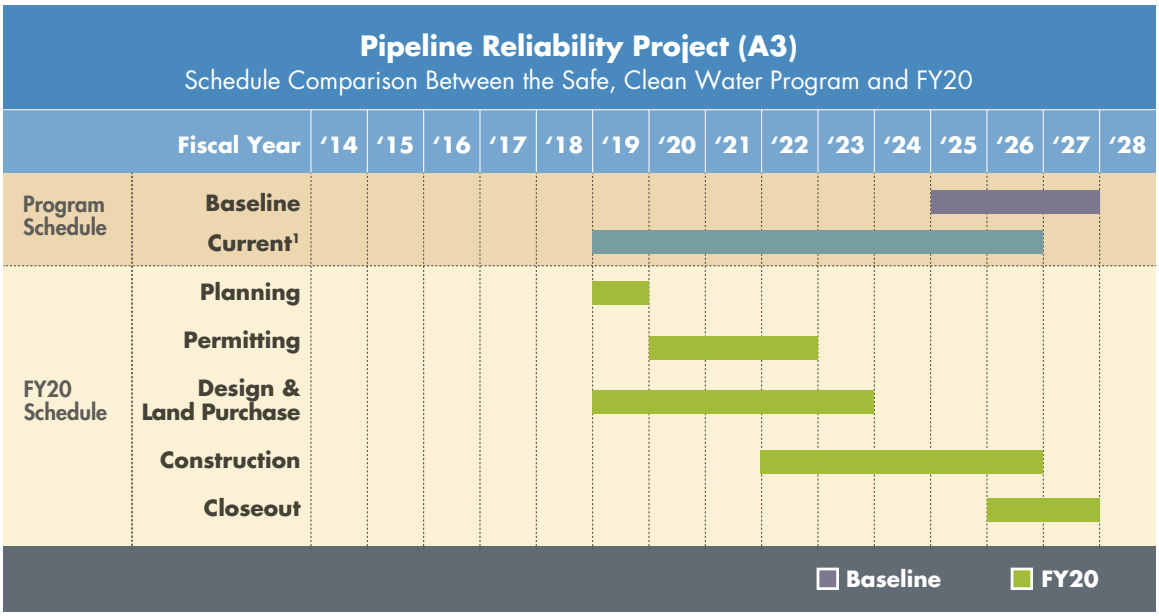
Geographic Area of Benefit: Mountain View, Sunnyvale, Santa Clara, Cupertino, Saratoga, Los Gatos, Los Altos, Campbell, San José and Milpitas

Project Location



★ Project Locations Santa Clara County

Schedule



[1] Board approved schedule adjustments through the change control process in FY17 & FY20.

Status History

Fiscal Year	Status
FY 14	SCHEDULED TO START
FY 15	SCHEDULED TO START
FY 16	SCHEDULED TO START
FY 17	SCHEDULED TO START
FY 18	SCHEDULED TO START
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- Project work was initiated in FY19. Planning, preliminary design and 30% design for three (3) of the line valves were completed. Data collection, assessment of optimal valve location and preliminary design for the fourth line valve was also completed. Design development for all four (4) line valves will continue in FY21. Line valve construction is scheduled for inclusion in the FY22 to FY26 pipeline maintenance projects, as programmed in Valley Water's current 10-Year Pipeline Inspection and Rehabilitation Program.

Financial Information

In FY20, 56% of the annual project budget was expended.

The project was underspent because staff worked on other pipeline projects, such as the Santa Clara Conduit Inspection and Rehabilitation Project, that are part of the 10-Year Pipeline Inspection and Rehabilitation Program and scheduled to be constructed prior to the Pipeline Reliability Project.

Financial Summary ($ Thousands)
A3. Pipeline Reliability Project

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$399	$811	$1,209	$592	$79	$671	56%	$11,938	8%

Opportunities and Challenges

Schedule Adjustment

In FY20, the Board approved a schedule adjustment, extending the project completion date by one year to FY26. The project is incorporated into Valley Water's 10-Year Pipeline Inspection and Rehabilitation Program to ensure coordination with the long-term operations and maintenance pipeline shutdown schedule. The schedule adjustment was required due to updates to the Pipeline Inspection and Rehabilitation Program, developed with input from water retailers. As a result, the project is now scheduled to begin construction of the first valve in FY21 and complete the final valve in FY26.

The original project schedule had an estimated start date of FY25 and the completion date of FY27. In reviewing the FY15 Safe, Clean Water Annual Report, the IMC recommended advancing the project schedule. Valley Water evaluated the funding impacts and staff resource availability for initiating this project earlier. At the January 10, 2017, presentation of the Preliminary FY18-22 CIP to the Board, staff informed the Board that this project work would be incorporated into Valley Water's 10-Year Pipeline Inspection and Rehabilitation Program, thus advancing the project schedule with construction beginning in FY19 and completion in FY25. On March 23, 2017, the Board approved the adjustment to the project schedule.

Acquisition of Easements

Permanent easement acquisition may be required for the project. Line valves will be installed in existing Valley Water pipeline easements and/or public rights-of-way to the greatest extent possible.

Confidence levels

Schedule: Moderate Confidence

The installation of the valves will require the pipelines to be dewatered, which will take the pipeline out of service. The construction is coordinated with the long-term maintenance plan as well as other projects to minimize the disruption of water supply to the community. It is currently projected that construction will be completed in FY26 due to maintenance and other projects.

Funding: High Confidence

Funding from the Safe, Clean Water Program is expected to be sufficient to complete the project work.

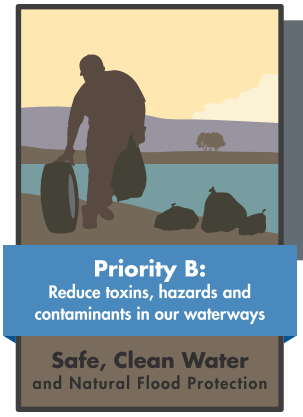
Permits: Moderate Confidence

There has been no indication that permit acquisition will be challenging.

Jurisdictional Complexity: High Confidence

Coordination with the County of Santa Clara, City of San José, City of Saratoga and City of Cupertino has been initiated. There has been no indication that jurisdictional issues will be challenging.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.



Priority B

Reduce Toxins, Hazards and Contaminants in our Waterways

Projects under Priority B use multiple strategies to reduce and remove contaminants in our local creeks, streams and bay. In addition to mercury treatment systems in our reservoirs, projects under this priority also prevent toxins from entering waterways by working with municipalities and other agencies to reduce runoff pollution. Valley Water also provides grants to reduce emerging contaminants and supports public education and volunteer cleanup efforts. Additional projects include coordinated cleanup of encampments near waterways, trash and graffiti removal, and rapid emergency response to hazardous materials spills.

Project B1
Impaired Water Bodies Improvement

Project B2
Interagency Urban Runoff Program

Project B3
Pollution Prevention Partnerships and Grants

Project B4
Good Neighbor Program: Encampment Cleanup

Project B5
Hazardous Materials Management and Response

Project B6
Good Neighbor Program: Remove Graffiti and Litter

Project B7
Support Volunteer Cleanup Efforts and Education

Water column sampling at Guadalupe Reservoir.

ON TARGET

Project B1 FY20 Highlights

- Operated and maintained existing oxygenation treatment systems in four (4) reservoirs (Almaden, Calero, Guadalupe and Stevens Creek).
- Funded the operation of four (4) solar-powered circulators in Almaden Lake to improve oxygen concentration at the lake bottom.
- Implemented five (5) priority pollution and reduction activities at 27 waterbodies, including 14 creeks and the Guadalupe River.

Project B1

Impaired Water Bodies Improvement

This project helps Valley Water meet surface water quality standards and reduces pollutants in streams, groundwater, lakes and reservoirs. Efforts are carried out in compliance with the Regional Water Quality Control Board (RWQCB) Total Maximum Daily Loads (TMDLs) standards as they continue to evolve (TMDLs are the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards). Under this project, Valley Water employs treatment systems in reservoirs to reduce methylation of mercury, and also helps create realistic plans and expectations for reducing contaminant loads by engaging in the regulatory development process with the RWQCB for new and emerging contaminants.

Benefits

- Reduces contamination in creeks and reservoirs
- Improves water quality, including water going to drinking water treatment plants
- Reduces methylmercury in reservoirs to prevent its entry into the food web
- Improves ecosystem health by reducing mercury contamination in fish and other biota
- Supports regulatory compliance of TMDL standards affecting Valley Water operations

Key Performance Indicators (15-year Program)

1. Operate and maintain existing treatment systems in 4 reservoirs to remediate regulated contaminants, including mercury.
2. Prepare plan for the prioritization of pollution prevention and reduction activities.
3. Implement priority pollution prevention and reduction activities identified in the plan in 10 creeks.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- Operated and maintained existing oxygenation treatment systems (systems) in four (4) reservoirs (Almaden, Calero, Guadalupe and Stevens Creek) to reduce methylmercury production and improve water quality. Valley Water is subject to the Guadalupe River Watershed Mercury TMDL (Mercury TMDL), but had initiated voluntary methylmercury production and control studies in 2005 prior to its adoption.

Oxygenation System Operation

Hypolimnetic oxygenation systems are operated to prevent anaerobic (no-oxygen) conditions that occur during summer reservoir stratification. Stratification is a separation of the water into two (2) layers of differing temperature: the epilimnion (top layer) and the hypolimnion (bottom layer). During stratification, oxygen can be depleted in the hypolimnion. Under low-oxygen conditions, mercury can be converted to methylmercury, a highly toxic compound that accumulates in fish tissue and presents serious health risks to birds and people consuming fish.

The Mercury TMDL has water quality objectives for fish tissue and hypolimnion water methylmercury concentrations. For more information on the Mercury TMDL, please see the San Francisco Bay RWQCBwebsite: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/guadaluperivermercurytmdl.shtml.

In summer of 2019, the oxygenation systems operated nearly continuously throughout the stratification periods of the four (4) reservoirs (Almaden, Calero, Guadalupe and Stevens Creek), with some brief interruptions due to mechanical issues. Although Stevens Creek Reservoir is located outside of the Guadalupe River Watershed, and therefore not subject to the Mercury TMDL, it also contains fish with mercury concentrations that exceed standards. Valley Water operates an oxygenation system at Stevens Creek Reservoir to reduce methylmercury production, improve downstream water quality and serve as a positive control site for comparison to the other three reservoirs.

During the summer of 2019, Valley Water used lower oxygen flow at the Stevens Creek oxygenation system to reduce impacts on turbidity and temperature while maintaining sufficient oxygenation to address methylmercury formation. While temperature changes within the reservoir overall are relatively small during oxygenation, the outfall temperature during those periods can increase by a couple of degrees. In June 2020, Valley Water began a one-year study to better understand the water quality effects of the oxygenation system on reservoir discharge, including downstream dissolved oxygen, turbidity and temperature. Results of the study will allow staff to better calibrate or otherwise improve the operation of the oxygenation system, if necessary, while maintaining sufficient oxygen levels.

Operation of oxygenation systems in 2019:

- Almaden Reservoir – 17 weeks
- Calero Reservoir – 17 weeks
- Guadalupe Reservoir – 14 weeks
- Stevens Creek Reservoir – 13 weeks

Although not a KPI, the project also funds the operation of solar-powered circulators in Almaden Lake which have resulted in modest reductions in methylmercury.

In spring of 2020, the oxygenation systems were not deployed until May (Calero and Almaden) and June (Guadalupe and Stevens Creek) due to the impacts of COVID-19 pandemic, which slowed the availability of maintenance parts and services, especially for the Stevens Creek Reservoir unit, and delayed required maintenance on all units. Fortunately, late-season rains and cool weather delayed the onset of strong stratification in the reservoirs.

Sampling the Guadalupe River for mercury during a storm.

Continuous specialized maintenance and troubleshooting are needed to keep the oxygenation systems operational. In the winter, reservoirs are well-mixed and naturally oxygenated throughout, eliminating the need for oxygenation system operation. Major annual maintenance tasks were performed in February 2020, and additional preventive maintenance was performed in late May/early June 2020. Specialized equipment requires original vendors to perform much of the troubleshooting and maintenance. In 2019, Valley Water maintenance staff began regular weekly maintenance inspections of all oxygenation units. Staff also received training from authorized service providers in more detailed service activities. This should enable staff to perform more maintenance tasks, further reducing equipment downtime.

Almaden Lake Solar-Powered Circulators

This project also funds the operation of four (4) solar-powered circulators in Almaden Lake to improve oxygen concentration at the lake bottom. They have resulted in modest reductions in methylmercury in the lake. In February 2020, two (2) of the circulators were found to have stopped functioning. Major inspection and maintenance work was performed on all four (4) circulators in May/June 2020.

Progress Report on Methylmercury Control

Operation of the oxygenation systems resulted in significant reduction in methylmercury in the hypolimnion (bottom of a reservoir), with an average decrease of up to 70% below historical summer concentrations. In most cases, the methylmercury TMDL for the hypolimnia of reservoirs was met, however, no change was measured in the epilimnion (upper layer). Guadalupe and Stevens Creek Reservoirs showed a trend of decreasing fish mercury, but concentrations remained well above targets. In Calero Reservoir, oxygenation also improved source water quality by increasing dissolved oxygen and reducing manganese and iron (which affect taste and odor), benefitting the Rinconada and Santa Teresa drinking water treatment plants.

Valley Water monitored water quality twice per month in each reservoir during oxygenation system operation, and once per month during the remainder of the year until March 2020. Valley Water collected fish tissue samples in summer 2019 (spring 2020 sampling did not occur due to COVID-19 impacts). Valley Water submitted a progress report to the RWQCB on the effectiveness of the hypolimnetic oxygenation systems in March 2020. The update report consisted of a cover letter and a draft manuscript for publication in a technical journal. The manuscript is being finalized based on peer review comments. Once published, the link will be included on the project webpage.

Key findings and components of the progress report are:

- Oxygenation Systems operated normally with some interruptions.
- Water Quality Samples were collected and analyzed in accordance with the monitoring plan.
- Fish were collected consistent with the Guadalupe River Watershed Mercury TMDL.
- Reservoir oxygenation decreased methylmercury concentrations in the bottom water layer of all four reservoirs.
- Fish tissue mercury concentrations are declining in Guadalupe and Stevens Creek reservoirs.
- Mercury and methylmercury loads from reservoirs are variable on an annual basis, changing with water storage and outflow.
- The 2020–2021 Reservoir Monitoring Plan and the 2018 and 2019 Fish Assemblage Report were appended to the progress report.

The 2019 cover letter/progress report can be found here (https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2019%20Biennial%20Report%20Cover%20Letter%20and%20Attachments%20Final%20reduced.pdf). The 2017 progress report and accompanying fish assemblage report can be found here: https://bit.ly/2m32p1J . The report was well-received by the San Francisco Bay RWQCB. The San Francisco Bay RWQCB approved Valley Water's suggested sampling changes, which are saving time and resources for the mercury sampling program.

Progress on KPI #2: *(Completed in FY15)*

Valley Water drafted a Pollution Prevention Prioritization Plan (Plan) in January of 2015. This Plan is intended to prioritize 10 Santa Clara County waterbodies that would benefit most from pollution prevention projects. Focusing on waterbodies listed as impaired on the Environmental Protection Agency's Clean Water Act section 303(d) list, Valley Water revised the Plan in 2017. The updated Plan includes a revised ranking methodology and recommendations for pollution prevention activities. The Plan is currently being revised a third time to incorporate new information and regulatory changes. Because the 303(d) list is updated every two (2) years to include new data, emerging pollutants and de-listings, the Plan is considered a "working document" and will be updated as regulatory priorities evolve. As a result, specific pollution prevention activities to be implemented as part of KPI #3 are not identified in the Plan but are identified as part of annual reporting. Specific pollution prevention projects will be focused on addressing existing impairments in priority waterbodies.

Progress on KPI #3:

In FY20, Valley Water continued to implement five (5) priority pollution and reduction activities in 27 waterbodies, including 14 creeks and the Guadalupe River. The table below shows the Pollution Prevention activities and applicable waterbodies.

Priority Pollution Prevention and Reduction Activities

Pollution Prevention Activity	Waterbody[1]
#1: Trash Accumulation Point Mapping and Removal	Guadalupe River
#2: Trash Accumulation Point Mapping and Removal	Coyote Creek
#3: Trash Reduction — Park Rangers and SJPD	Coyote Creek Guadalupe River
#4: Angler Survey	Almaden Lake Almaden Reservoir Anderson Reservoir Calero Reservoir Camden Ponds Chesbro Reservoir Guadalupe Reservoir Lexington Reservoir Ogier Ponds[2] Stevens Creek Reservoir Uvas Reservoir Vasona Lake
#5: Homelessness Best Practices	Guadalupe River Los Gatos Creek Ross Creek Guadalupe Creek Coyote Creek Silver Creek Thompson Creek Lower Penitencia Creek San Tomas Aquino Creek Saratoga Creek Calabazas Creek Stevens Creek Permanente Creek Llagas Creek Uvas Creek
Total 5 Pollution Prevention Activities	**27 waterbodies**

[1] "Waterbody" includes creeks, lakes and reservoirs.
[2] Ogier Ponds are owned by Santa Clara County.

Pollution Prevention Activity #1 & 2: Trash Accumulation Point Mapping and Removal

Guadalupe River

Valley Water began implementing the Plan in December 2015. The first pollution reduction activity in the Plan was the mapping of trash accumulation locations in the Guadalupe River, from Highway 237 to Blossom Hill Road. The first Trash Accumulation Point Map was completed in FY16. Trash accumulation point mapping and removal is now part of a Memorandum of Agreement with the City of San José. In FY20, staff mapped and assessed Guadalupe River; however, accumulation points contained large woody debris rather than trash. Therefore, trash removal resources were prioritized for Coyote Creek due to the large amount of debris in that waterway. Trash accumulation point mapping efforts were put on hold due to COVID-19 shelter-in-place orders. Staff will resume mapping trash accumulation points in Guadalupe River when safe to do so. (https://www.valleywater.org/sites/default/files/B1_TrashRaftData_FiscalYear_Comparisons.pdf).

Coyote Creek

Valley Water coordinated with the City of San José to develop a trash accumulation point map for Coyote Creek in summer of 2017. In FY20, Valley Water removed a total of 98.5 cubic yards (CYs) or 9.85 tons of trash from Coyote Creek. During the year, trash was removed from the following Coyote Creek locations: 12 CYs (1.2 tons) from Roosevelt Park in July 2019, 17.5 CYs (1.75 tons) from Corie Ct. in January 2020, 20 CYs (2 tons) from Watson Park in March 2020, 20 CYs (2 tons) from Roosevelt Park in March 2020 and 29 CYs (2.9 tons) from Kelley Park in April 2020. Trash accumulation point mapping efforts were put on hold due to COVID-19 shelter-in-place orders. Staff will resume mapping trash accumulation points in Coyote Creek when safe to do so.

Pollution Prevention Activity #3: Trash Reduction (Guadalupe River and Coyote Creek)

This project funds patrol and enforcement services from the City of San José and California Department of Fish and Wildlife (CDFW) officers for proactive patrols along the Coyote Creek and Guadalupe River. Valley Water executed an agreement with the San José Police Department in May 2019, which was extended in January 2020 for a total of $400,000 for 16 months of a Stream Stewardship Law Enforcement Program. This program is critical to providing a safe environment for Valley Water personnel and volunteers to undertake stream stewardship activities and thereby discourage re-encampment. The extended agreement includes training for officers on environmental violations. Patrols were on hold as of March 2020 due to the COVID-19 pandemic.

An agreement with the CDFW for $70,000 was intended to assist in identifying debris sites, patrolling areas to prevent re-encampment, and to conduct enforcement related to the Department's jurisdiction. Due to staffing shortages, few funds were expended. The agreement was extended and in spring of 2019 the Game Wardens began increasing patrol and enforcement along creeks in San José.

These services complement the encampment cleanups completed under the Project B4: Good Neighbor Program – Encampment Cleanup.

Pollution Prevention Activity #4: Angler Survey in mercury-impaired waterbodies

This study assessed fish consumption and human health risk in 13 mercury-impaired lakes and reservoirs and evaluated the effectiveness of existing consumption advisories, informing future consumption advisories and directing public outreach actions. The final angler survey report was shared with the County of Santa Clara, who manages recreation at Valley Water reservoirs and is posted here: https://www.valleywater.org/project-updates/b1-impaired-water-bodies-improvement. Key findings include:

- 18% of anglers planned to eat their catch or give it to others. Most anglers who eat their catch feed it to children and women of child-bearing age.
- Anglers from zip codes with lower median incomes ate their catch more often.
- Anglers who were unaware of fish consumption advisories were more likely to consume their catch.
- Most anglers learned of fish consumption advisories through signage.

Recommended management actions included clarifying existing signage and posting additional signage, conducting additional outreach and using new data to update advisories. The results of the Angler Survey are being incorporated in joint efforts with the County to update signage. A new law requires the County to post the Office of Environmental Health Hazard Fish Advisories at each reservoir. Valley Water presented on consumption advisories

and the angler survey at the Sierra Fund Headwater Mercury Source Reduction technical advisory committee in May 2019. In addition, Valley Water staff shared the Angler Survey with the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) who also perform outreach to anglers in the county (http://www.mywatershedwatch.org/wp-content/uploads/SFBayFishEating-English_trifold.pdf). Please see Project B2: Interagency Urban Runoff Program for more information on SCVURPPP.

Pollution Prevention Activity #5: Homelessness Best Practices

Valley Water continues to track and research best practices. In FY20, Valley Water continued the partnership with the City of San José to provide homeless residents with trash bags to contain their waste, primarily along Coyote Creek and Guadalupe River. The city distributes transparent blue trash bags to its creek cleanup partners, Downtown Streets Team and homeless service providers to encourage homeless individuals to bag their trash. Homeless individuals use the bags and leave them along trails and sidewalks. The filled bags are then picked up by various city departments, creek partners and Downtown Streets Team. Valley Water began assisting the city with this effort, including purchasing bags and bag removal from locations to be determined using the online customer service center Access Valley Water (AVW) to notify. Bag pick-up will be tracked to help measure the success of the program. This activity was conducted at modified levels due to the County and State shelter-in-place directives in response to the COVID-19 pandemic. During FY20, 10 cubic yards of bags were picked up along Coyote Creek at Corie Ct, Brokaw Road and Wool Creek Drive in October 2019, and six (6) cubic yards of bags were picked up along Coyote Creek at Wool Creek Drive in December 2019.

Financial Information

In FY20, 79% of the annual project budget was expended.

The underspending was due to the COVID-19 pandemic and shelter-in-place orders, which halted monitoring and studies that could not be completed while maintaining social distancing, including mercury monitoring and planned food web study monitoring and analysis.

Financial Summary ($ Thousands)
B1. Impaired Water Bodies Improvement

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,768	$0	$1,768	$1,148	$251	$1,399	79%	$27,427	33%

Opportunities and Challenges

Technical Studies on Methylmercury Control

Valley Water conducts technical studies to analyze the effectiveness of oxygenation to control methylmercury production and to better understand mercury cycling in the reservoirs.

The COVID-19 pandemic paused the technical studies starting in April 2020. Due to the mercury sample method as well as the need to sample from a boat, close proximity between two staff is needed for sampling. Valley Water notified the RWQCB of the paused technical studies and plans to resume as soon as possible.

Valley Water staff is finalizing a manuscript (Effects of Hypolimnetic Oxygenation on Mercury Cycling and Bioaccumulation in Reservoirs near the New Almaden Mining District, California, USA) for submission to a scientific journal. Coauthors include staff from Valley Water, UC Merced and the RWQCB.

In May 2019, Valley Water entered into a partnership agreement with the United States Geological Survey (USGS) to study water column mercury methylation in the four reservoirs (Almaden, Calero, Guadalupe and Stevens Creek). Emerging research suggests that the water columns of reservoirs, in addition to the sediment-water interface, may be important locations of methylmercury production and bioaccumulation. Field sampling and experiments occurred in May and August 2019. Valley Water staff is currently analyzing data.

UC Merced received a research grant from the Department of Energy to study treatment methods that may be employed to reduce methylmercury production in Guadalupe Reservoir sediments. Valley Water supported this effort by facilitating field data collection events with university researchers. A manuscript detailing findings is currently in progress.

The findings of Valley Water's technical studies will inform the implementation plan of the upcoming Statewide Mercury Program for Reservoirs currently under development by the State Water Resources Control Board. Valley Water actively participates in the statewide effort.

Valley Water staff presented results of the UC Merced/Department of Energy sediment methylmercury reduction studies at the Waste Management Symposium in March 2020.

Coordinated Mercury TMDL Monitoring Program and Partnerships

In addition to reservoir monitoring, the Guadalupe River Watershed Mercury TMDL requires coordinated monitoring of fish in creeks and mercury loads to the San Francisco Bay by mine site and reservoir owners. Valley Water coordinated with project partners (County of Santa Clara, Midpeninsula Regional Open Space District, and Guadalupe Rubbish Disposal Company) to plan the second 5-year phase of the Coordinated Monitoring Program for the Guadalupe River Watershed Mercury TMDL project. A 5-year monitoring report was submitted to the RWQCB in January 2017 (https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/guadalupe_river_mercury/Final%20Report%20Guadalupe%20River%20Watershed%20CMP%20032417.pdf). The partners are primarily responsible for source control and implementing projects to remediate mercury-contaminated sites upstream of the reservoirs in the old Almaden Mining district.

Valley Water led the development of a cost-share agreement to fund a consultant to develop and implement a plan to meet the mercury monitoring requirements. The consultants prepared a sampling plan that was reviewed by all partners and approved by the RWQCB in October 2018. The sampling plan and approval letter can be found at https://www.valleywater.org/project-updates/b1-impaired-water-bodies-improvement. The consultants sampled two large February storms to estimate mercury loading in FY18. In addition, the consultants sampled fish tissue mercury in creeks and Lake Almaden. A progress report was submitted to the RWQCB in March 2020 and can be found at https://www.valleywater.org/sites/default/files/Coordinated%20Monitoring%20Program%20Interim%20Monitoring%20Report%202018-2019.pdf.

Pollution Prevention Partnership Opportunities

Valley Water continues to explore partnerships with cities, non-profits and volunteer groups to implement priority pollution prevention and reduction activities in 10 water bodies throughout the county. This includes:

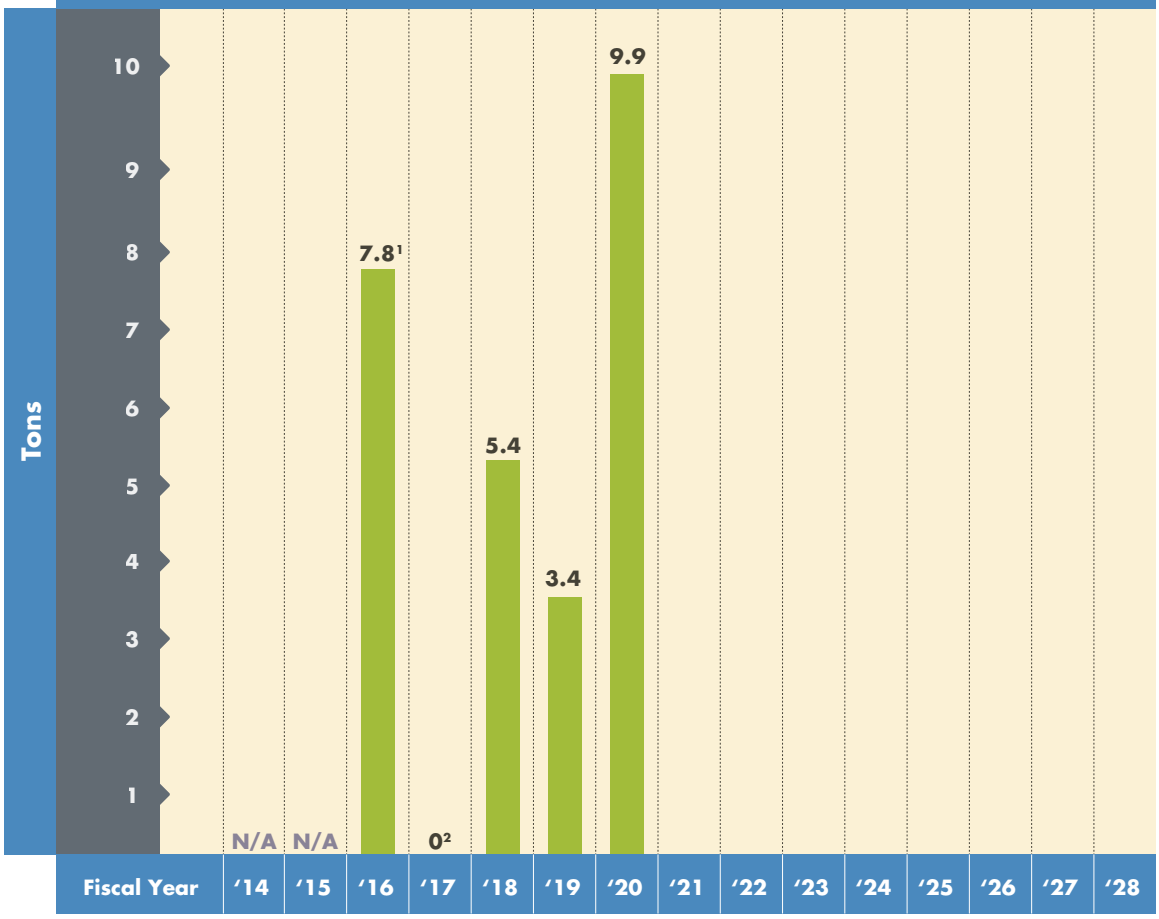
- Working with the City of San José on trash in Guadalupe River and Coyote Creek.
- Increased collaboration with the RWQCB and mercury researchers, as well as invitations to present mercury findings at various conferences.
- Partnership with USGS and UC Merced on mercury studies.
- Coordinated Monitoring Program for Guadalupe River mercury monitoring.
- Active participation in the California Lake Management Society.

In addition, the project is coordinated with the ongoing Guadalupe and Calero dam seismic retrofit projects to protect and improve reservoir water quality.

Operational and Maintenance Challenges

Operating the oxygenation systems consistently can be a challenge due to maintenance issues. The systems require specialized maintenance by original vendors, which was addressed as described above.

Graph B1.1 Impaired Water Bodies Improvement
Tons of Trash and Debris Removed



[1] This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.

[2] Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. The 0.2 tons of trash identified as part of this mapping effort was cleaned in FY18.

Project B2

Interagency Urban Runoff Program

This project supports Valley Water's continued participation in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) and South County programs that help Valley Water reduce stormwater pollution and meet regulatory requirements to reduce contaminants in surface water.

Valley Water also participates in the regulatory development process related to stormwater by providing review, analysis and commentary on various basin plan amendments, Total Maximum Daily Loads (TMDLs) and water bodies listed as impaired or threatened under the federal Clean Water Act. Project B2 also allows Valley Water to maintain regional public education and outreach activities to help prevent urban runoff pollution at the source.

Benefits

- Uses partnerships with municipalities and local agencies to reduce contaminants and improve surface water quality in our streams, reservoirs, lakes and wetlands
- Maintains Valley Water compliance with the Regional Water Quality Control Board and National Pollutant Discharge Elimination System (NPDES) permits
- Allows continued participation in SCVURPPP and South County urban runoff programs
- Promotes stormwater pollution prevention through public outreach

Key Performance Indicators (15-year Program)

1. Install at least 2 and operate 4 trash capture devices at stormwater outfalls in Santa Clara County.
2. Maintain partnerships with cities and County to address surface water quality improvements.
3. Support 5 pollution prevention activities to improve surface water quality in Santa Clara County, either independently or collaboratively with South County organizations.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Trash boom cleaning at Thompson Creek.

ON TARGET

Project B2 FY20 Highlights

- Operated four (4) trash capture devices (booms) in the county, collecting approximately 0.9 tons of trash.
- Maintained several partnerships with all cities and the county.
- Completed two (2) and in process for one (1) pollution prevention activities in South County.

Status for FY20: ON TARGET

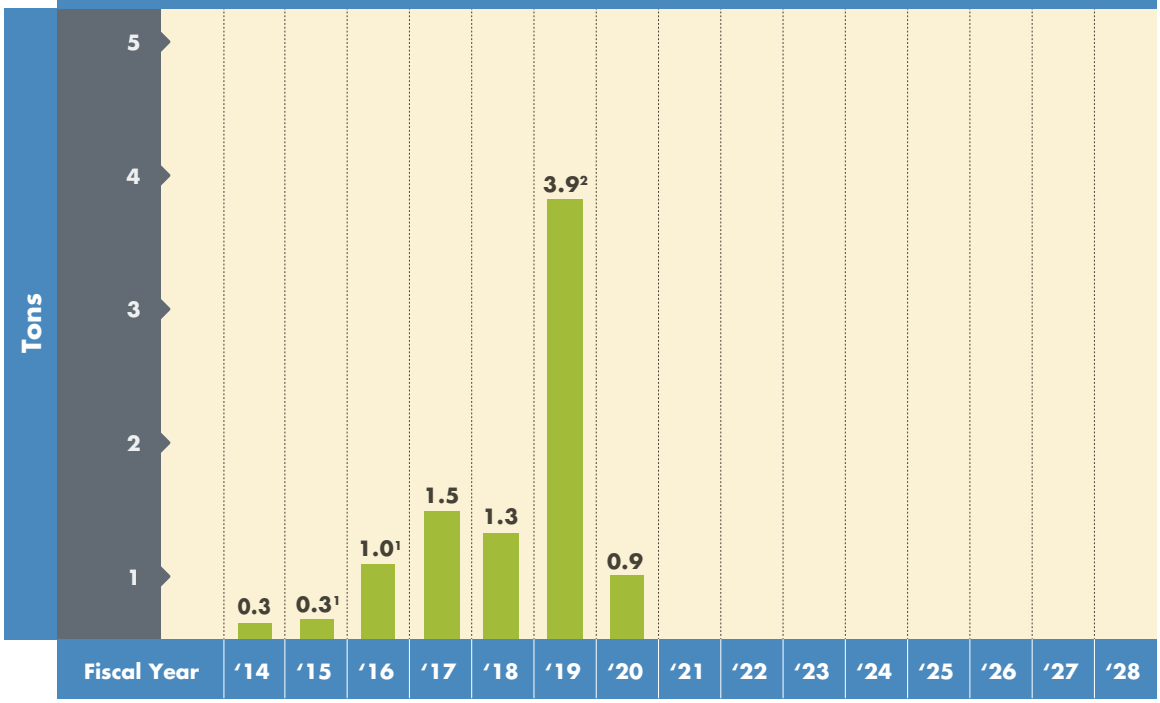
Progress on KPI #1:

In FY20, a total of four (4) trash capture devices (booms) were operated in Santa Clara County. Approximately 9.47 cubic yards (0.9 tons) of trash were collected and removed (Figure B2.1). The four (4) booms were located at:

- Lower Silver Creek near King Rd. and Schulte Dr., San José
- Matadero Creek at West Bayshore Rd., Palo Alto
- Adobe Creek at East Bayshore Rd., Palo Alto
- Thompson Creek upstream of Tully Rd., San José

The Matadero and Adobe creek booms are managed by the City of Palo Alto under an agreement with Valley Water, which obtained environmental permits. Per the agreement, the two (2) booms in Palo Alto are removed each year between December and April, while the booms in San José are typically left in the creeks all year. Valley Water inspects all booms regularly.

Graph B2.1 Interagency Urban Runoff Program
Tons of Trash and Debris Removed from Trash Booms (KPI #1)



[1] This estimate may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons.

[2] The FY19 increase is likely due to more frequent boom cleaning, necessitated by more frequent rainfall.

In addition to booms, the stormwater NPDES permit requires Valley Water to clean up designated "hot spots." Under Project B2, 10 hot spots were cleaned this year removing 21.74 cubic yards (2.17 tons) of trash. One of the 10 hotspots was cleaned twice during FY20. Other hot spots were cleaned through the Project B4: Good Neighbor Program – Encampment Cleanup and Project B7: Support Volunteer Cleanup Efforts and Education programs. Several of the hot spots are also monitored according to the Receiving Water Trash Monitoring Program Plan (BASMAA, 2017). A report on the receiving water monitoring will be available in summer of 2020.

Progress on KPI #2:

Maintained several partnerships with cities and Santa Clara County.

- Valley Water is an active member of SCVURPPP. SCVURPPP is a partnership with Santa Clara County and 13 cities within the county to reduce pollution in urban runoff to the "maximum extent practicable" to improve the water quality of South San Francisco Bay and the streams of Santa Clara County. Below is more information about SCVURPPP partnership activities:
    - Valley Water's contribution to the SCVURPPP budget is 30%, and Valley Water chairs the management committee. More information can be found at http://scvurppp.org/.
    - Information on the SCVURPPP regional outreach program can be found here: http://www.mywatershedwatch.org/.
    - Work conducted in FY20 includes continued implementation of the requirements of the San Francisco Bay Municipal Regional Stormwater Permit (MRP 2.0) (see https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2_2015_0049_amended.pdf) and support of Green Stormwater Infrastructure implementation as part of the approved Stormwater Resource Plan (see https://scvurppp.org/swrp/). A SCVURPPP 2019 Program Summary can be found here: https://scvurppp.org/wp-content/uploads/2020/05/SCVURPPP-Program-Summary-2019-2.pdf.
    - SCVURPPP, municipalities and Valley Water submit annual reports to the San Francisco Bay Regional Water Quality Control Board (RWQCB) with accomplishments on the required activities. Valley Water's latest annual report can be found here: (https://www.valleywater.org/sites/default/files/B2%20-%20SCVWD_MRP-FY-18-19-Annual-Report-FINAL.pdf)
    - Permittees, including Valley Water, are currently working with the RWQCB on planning for the reissuance of the MRP. The current MRP expires at the end of 2020.
- Since May 2019, Valley Water staff has represented SCVURPPP on the Bay Area Stormwater Management Agencies Association (BASMAA) Board of Directors. More information on BASMAA can be found at http://basmaa.org/.
- In the fall of 2019, Valley Water staff was elected to the California Stormwater Quality Association

Typical Bioretention Design Green Infrastructure (Image Credit: SCVURPPP).

(CASQA) Board of Directors. For more information on CASQA, please see https://www.casqa.org/

- Valley Water continues to participate in the Santa Clara County Technical Advisory Committee (TAC) to the Recycling and Waste Reduction Commission (RWRC). The TAC works on various relevant issues, including waste and litter reduction, outreach, green business and reducing disposables. Under Project B3: Pollution Prevention Partnerships and Grants, Valley Water has supported the County of Santa Clara's Green Business Program, which is reviewed by the RWRC TAC. SCVURPPP and the RWRC are co-funding waste and litter reduction outreach efforts. In addition, Valley Water actively participates in the Eco-Gardeners committee, jointly funded by the Recycling and Waste Reduction Committee and SCVURPPP, with a goal of promoting native, drought tolerant landscaping, reducing the use of pesticides and encouraging composting.
- Valley Water actively participates and shares data, reports and findings with the South County stormwater group, comprised of Morgan Hill, Gilroy and the County of Santa Clara.

Progress on KPI #3:

In FY20, Pollution Prevention Activity #2 was still in process and Pollution Prevention Activity #3 was completed for a total of three (3) pollution prevention activities in South County. Pollution Prevention Activity #1 was completed in FY19. The Pollution Prevention Prioritization Plan completed and updated under Project B1: Impaired Water Bodies Improvement (KPI #2) is also being used to prioritize projects for Project B2 with a focus on South County.

- Pollution Prevention Activity #1 (completed): Worked with Gilroy, Morgan Hill, and the County to complete the South County Pajaro River Watershed Pathogen and Microbial Source Tracking Study (https://bit.ly/2lU4FYS). Valley Water finalized the report in FY17. This study resulted in further monitoring of pathogen sources by South County agencies with additional investment by Valley Water in FY18. This activity has resulted in information that other agencies are using to develop pollution prevention outreach. A summary of the study was developed and can be found at: https://bit.ly/2kkyZvC.
- Pollution Prevention Activity #2 (in progress): Valley Water performed data analysis for South County nutrient impairment and TMDL for the Pajaro River watershed to prioritize agricultural parcels based on predicted nitrate, precipitation, soil erosivity, slope and area. The analysis was presented to the South County stormwater group. Valley Water is currently developing the next steps to reduce nutrient loading in the Uvas/Llagas Watershed. Valley Water staff is tracking the regulatory requirements for agricultural discharges of nutrients and pesticides.
- Pollution Prevention Activity #3 (completed): Valley Water developed a Storm Water Resource Plan (SWRP) in collaboration with stormwater permittees in South County (Gilroy, Morgan Hill and County of Santa Clara) to identify and prioritize Green Stormwater Infrastructure (GSI) opportunities that could be eligible for funding. Similarly, to the SCVURPPP effort, this SWRP is a planning document that uses a data-mapping approach to identify and prioritize local and regional GSI projects that can be implemented to improve local surface water quality through enhanced stormwater management. GSI reduces the quantity and improves the quality of water flowing into our creeks, while also providing other possible benefits, including groundwater infiltration, flood attenuation, aesthetics, reduction in heat islands and other community benefits.

Financial Information

In FY20, 87% of the annual project budget was expended. The underspending was primarily due to less labor expended on this project as a result of staffing changes and anticipated trash cleanups not able to take place during the COVID-19 pandemic.

Financial Summary ($ Thousands)
B2. Interagency Urban Runoff Program

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$817	$0	$817	$711	$0	$711	87%	$12,641	37%

Opportunities and Challenges

Trash Capture

Opportunities exist for the use of booms at additional creek locations to help capture trash during Project B1 trash mapping and cleanup activities. Trash booms require environmental permitting and may not be appropriate for all creek locations. In addition, a new Municipal Regional Stormwater Permit is being developed by the RWQCB that may affect future strategies for trash capture. Valley Water has provided lessons learned information on booms to SCVURPPP and BASMAA partners and presented on booms at the 2019 CASQA conference.

Trash Prevention

Through collaboration with cities as part of SCVURPPP, the Zero Litter Initiative and the RWRC TAC, Valley Water works on preventing trash through education and outreach. Valley Water's outreach and school education programs also address reducing litter and waste.

Homelessness

Encampments in the creeks are increasing and contributing significant amounts of trash to urban creeks. Several of the Priority B projects are related to clean up of trash and encampments. Valley Water meets regularly internally as well as with the City of San José to coordinate resources and cleanup efforts.

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup are very high, although volunteer activities have been impacted by the COVID-19 pandemic. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6 and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. A factsheet was compiled in FY20 showing the amount and type of litter removed during creek cleanups (https://www.valleywater.org/sites/default/files/Final%20SC%20County%20Creek%20Cleanup%20Factsheet%204_13_20v4%20reduced%20size.pdf). For additional information on the volunteer program, please see Project B7.

Project B3

Pollution Prevention Partnerships and Grants

This project provides pollution prevention grants to qualified local agencies, nonprofit groups, schools, etc., totaling an average of $500,000 per cycle. In addition, up to $200,000 per year goes toward partnerships with municipalities for specific programs to reduce contaminants in surface or groundwater, and reduce emerging contaminants.

Grants could support programs such as public education to prevent pharmaceuticals from entering waterways, technical assistance to help growers protect groundwater, and partnerships to reduce litter and graffiti.

Benefits

- Helps prevent contaminants such as pharmaceuticals, household hazardous waste and trash from entering our waterways
- Helps meet regulatory requirements as listed under the impaired water bodies listing of the federal Clean Water Act
- Reduces contaminant source loads in groundwater and surface water, and protects local watersheds
- Provides public education to reduce contaminants in our waterways
- Leverages community resources for efficient use of funds

Key Performance Indicator (15-year Program)

1. Provide 7 grant cycles and 5 partnerships that follow pre-established competitive criteria related to preventing or removing pollution.

Geographic Area of Benefit: Countywide

S.F. Bay Wildlife Society cleanup event.

ON TARGET

Project B3 FY20 Highlights

- The Board awarded a total of $478,969 for five (5) grant projects.
- Continued administering 10 open grants and partnerships.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- On February 11, 2020, the Board awarded a total of $478,969 for five (5) grant projects:
  - Children's Discovery Museum of San Jose – Exploration Portal: Preventing Pollution ($144,500)
  - Grassroots Ecology – Community Based Stewardship of Green Stormwater Infrastructure ($89,332)
  - West Valley Clean Water Program Authority – School Site Stormwater Pollution Prevention Plans ($35,088)
  - County of Santa Clara – Green Business Program ($120,000)
  - Guadalupe River Park Conservancy – Reducing the Impacts of Litter Along the Guadalupe River Trail ($90,049)
- From FY14-19, 17 grant projects and five (5) partnerships were awarded for a total of $3,809,282. Eleven (11) have been completed, closed or cancelled.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Financial Information

In FY20, 44% of the annual project budget was expended.

The under-expenditure was due to not awarding all of the funds allocated for grant projects and the delays in executing grant agreements. Due to CEQA compliance requirements and impacts from the COVID-19 public health orders, staff and grantees experienced delays in executing agreements for projects that were awarded funding. The grant funds that were budgeted for FY20 will be adjusted into FY21 to align with the agreements that need to be executed, per Board approval.

Financial Summary ($ Thousands) B3. Pollution Prevention Partnerships and Grants								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$871	($479)	$392	$166	$7	$173	44%	$7,595	44%

Opportunities and Challenges

Safe, Clean Water Grants Program Improvements

During the FY19 Annual Report review, the Independent Monitoring Committee (IMC) recommended evaluating the effectiveness and efficiency of the administration of the Safe, Clean Water Grants Program for Projects A2, B3, B7, D3 and Clean, Safe Creeks grants. Valley Water staff continues to identify areas to streamline the grant administration and grant application processes, especially after multiple staffing transitions and the continued build out of the online grants management system, Fluxx. The Board Audit Committee approved a desk audit of the grants program by an external auditor in FY20. The outcome of the desk audit was the recommendation for a subsequent performance audit for the grants program. Staff will work with the external auditor to identify streamlining opportunities and collect the IMC's requested metrics and will present the performance audit results to the IMC upon completion.

COVID-19 Impacts to Safe, Clean Water Grants Program

In March 2019, the Santa Clara County Public Health Officer issued countywide guidance to slow the spread of coronavirus in our community. The countywide guidance included a shelter-in-place order and other restrictions, which impacted many grant projects especially those interfacing with the public and involving work outdoors. Valley Water staff continue to support grantees in navigating project implementation during the pandemic. Grantees are finding creative ways to continue their project activities in alignment with the public health guidance. However, staff has received several time extension requests, schedule adjustment inquiries, and delays to agreement executions due to the impacts of COVID-19 on grantees. Staff will continue to monitor these projects and work with grantees to address these unforeseen changes.

Project B4

Good Neighbor Program: Encampment Cleanup

This project supports Valley Water's ongoing coordination with local cities and agencies to clean up creekside encampments that contaminate waterways and damage Valley Water facilities. This cooperative effort includes local police departments, social services, and nonprofit advocacy groups that help provide alternatives to homelessness.

Homeless encampment along Coyote Creek in San José.

ON TARGET

Project B4 FY20 Highlights

- Cleaned 298 encampment sites and removed 681 tons of trash and debris from encampments.
- Participated in the Joint Trash Team along with the City of San José and other partner agencies on a monthly basis.

Benefits

- Reduces trash and other pollutant loads in surface water, including streams, reservoirs and wetlands
- Improves the aesthetics of creeks in neighborhoods and parks
- Coordinates efforts among multiple agencies to create lasting solutions

Key Performance Indicator (15-year Program)

1. Perform 52 annual cleanups for the duration of the Safe, Clean Water Program to reduce the amount of trash and pollutants entering the streams.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- Exceeded the Key Performance Indicator (KPI) of 52 annual cleanups by cleaning 298 encampment sites in FY19 (Graph B4.1). Removed more than 681 tons of trash and debris from encampments (Graph B4.2).

While Valley Water provides encampment cleanup support on Valley Water property in cities throughout the county, the majority of these cleanups were

performed in coordination with the City of San José as part of an ongoing agreement to complete encampment removal activities along the creeks. In addition, Valley Water participated in the Joint Trash Team along with the City of San José and other partner agencies on a monthly basis to plan and schedule services that are required for cleanup events, such as social services, law enforcement and volunteer support.

Financial Information

In FY20, 56% of the annual project budget was expended.

The under-expenditure was because in March 2020, encampment cleanup activities were suspended as a result of the COVID-19 pandemic.

The FY20 project budget started at $925,000. In October 2019, the Board approved the Homeless Encampment Ad Hoc Committee's recommendation to draw an additional $575,000 from the Watershed Stream Stewardship Fund to increase the FY20 project budget to $1.5 million, to be in line with previous year's funding level. The Board also decided to monitor the funding approach for Fiscal Years 2021-2028 on an annual basis.

Financial Summary ($ Thousands)
B4. Good Neighbor Program: Encampment Cleanup

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$765	$750	$1,515	$845	$0	$845	56%	$15,679	47%

Opportunities and Challenges

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is high, although volunteer activities have been impacted by the COVID-19 pandemic. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

Homelessness in Santa Clara County

Along with a number of cities and countywide agencies, the Valley Water Board has endorsed the Community Plan to End Homelessness in Santa Clara County and Valley Water remains an active partner in implementing the plan by granting funding to the Downtown Streets Team through Project B3.

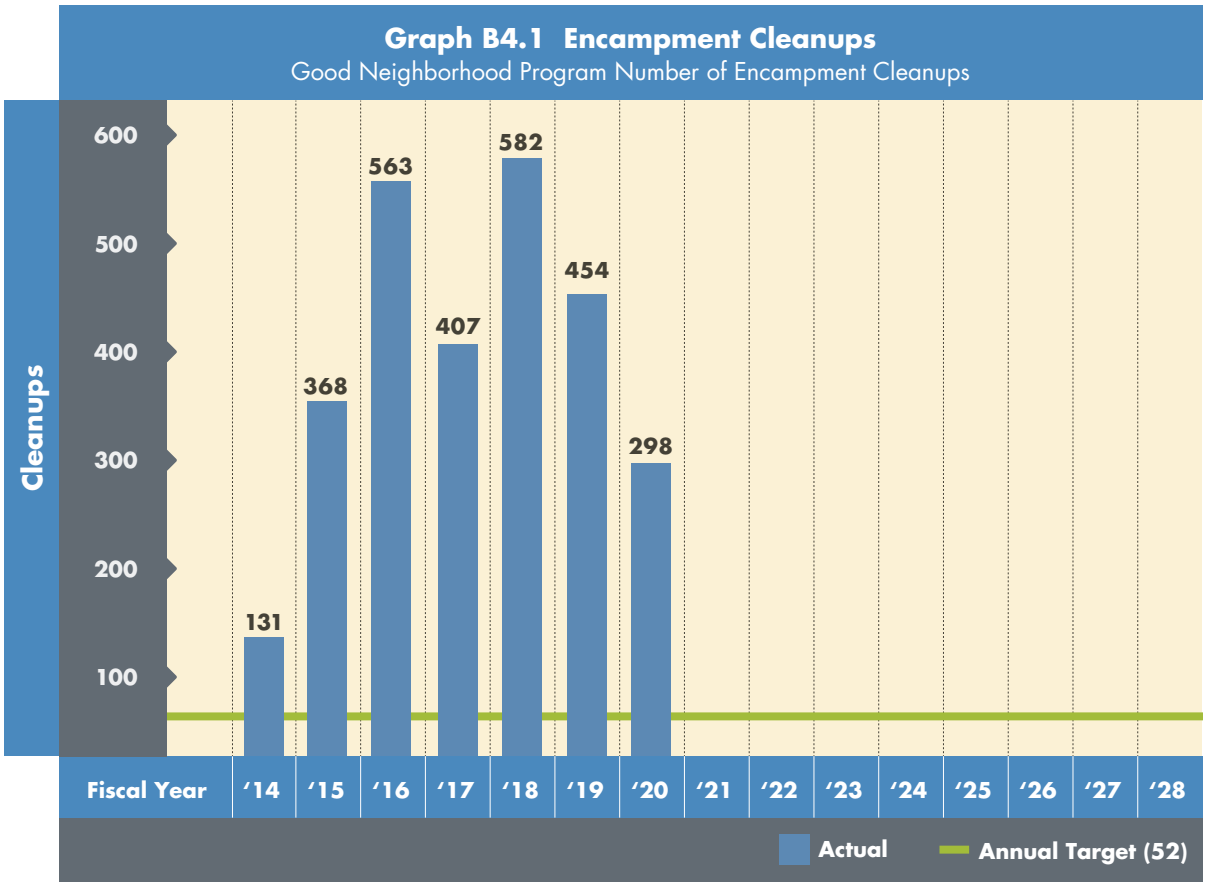
COVID-19 Impacts

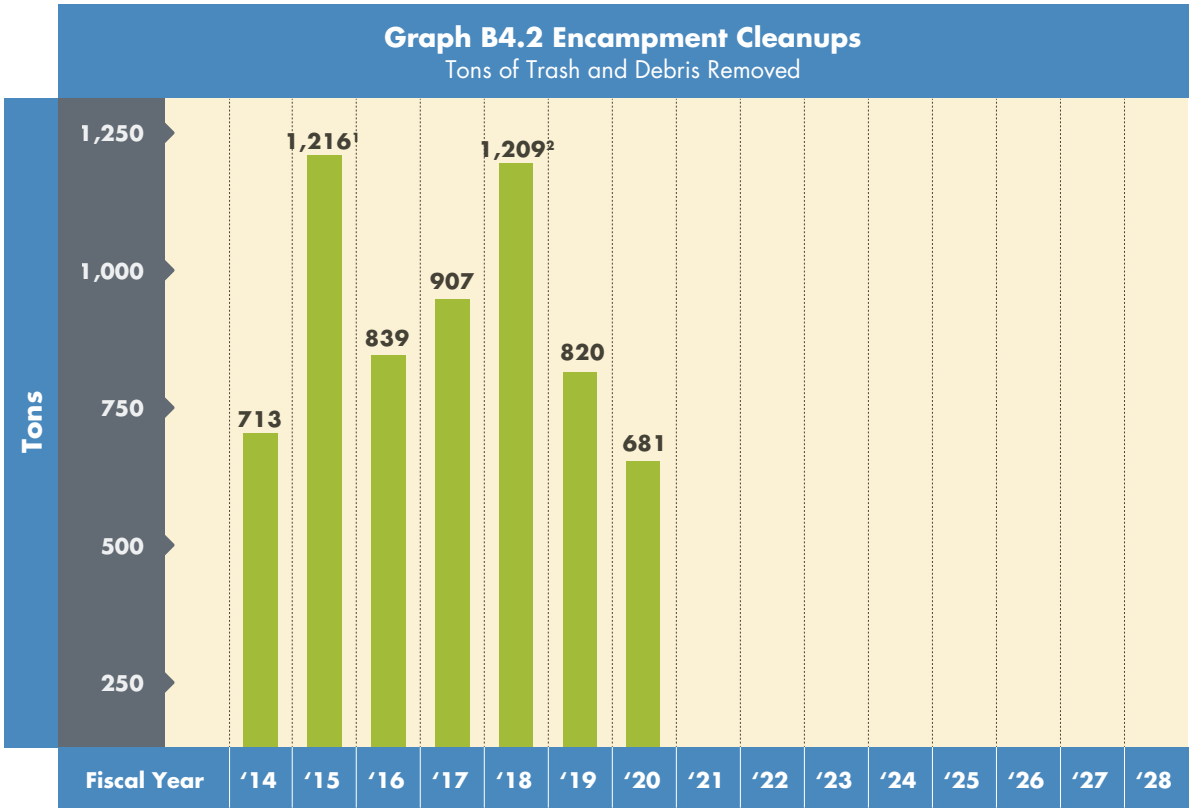
Under the state and county's shelter-in-place order to slow the spread of COVID-19, Valley Water is considered critical and essential as an organization from a utility and public works perspective. Essential work includes those

activities and processes necessary to ensure public safety; to align with Valley Water's charter to provide safe, clean water, flood protection and environmental stewardship; to ensure the viability of the agency; and work that if not performed, would have a significant impact to the community. Following the CDC guidance suspending homeless encampment abatements during the pandemic, local agencies, including Valley Water, ceased encampment cleanups until further notice. Due to the cleanups being suspended during the state and county's shelter-in-place order, there was a drop in cleanups.

Funding

There continued to be an increasing demand for Valley Water resources to address encampment cleanups from cities and the community. As a result, the Board has been supplementing the project funding with Watershed and Stream Stewardship Fund.





[1] In FY15, the Encampment Cleanup totals spiked as a result of trash and debris removed from combined cleanups in Coyote Creek in December 2014.

[2] In FY18, the Encampment Cleanup totals spiked due to an increase in community demand.

Project B5

Hazardous Materials Management and Response

This project allows Valley Water to continue providing a local, toll free number to report hazardous materials spills 24 hours a day, 7 days a week. Emergency staff responds within 2 hours of the initial report, with spill cleanup in Valley Water rights-of-way performed in a timely manner. Appropriate agencies are alerted when spills are outside Valley Water jurisdiction.

Recovering a truck from Stevens Creek Reservoir.

ON TARGET

Project B5 FY20 Highlights

- Met 100% of the required two (2) hour or less response time for urgent calls, with an average response time of 89 minutes countywide.
- Received 85 incident calls countywide, of which 37 received an on-site response; 20 were classified as urgent.
- Recovered a vehicle from Stevens Creek Reservoir.

Benefits

- Prevents and reduces contaminants in surface and groundwater
- Provides a quick, systematic emergency response that reduces negative impacts of hazardous materials spills

Key Performance Indicator (15-year Program)

1. Respond to 100% of hazardous materials reports requiring urgent on-site inspection in 2 hours or less.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

In FY20, Valley Water received 85 incident calls countywide, of which 37 received an on-site response; 20 were classified as urgent. The remaining 48 calls did not receive on-site responses because they were outside of Valley Water's jurisdiction, were reporting an event that occurred in the past and was already mitigated, or were addressed by another Valley Water team. Valley Water met 100% of its required two (2) hour or less response time for urgent calls, with an average response time of 89 minutes countywide.

Stevens Creek Reservoir Truck Incident

In July 2019, a dump truck carrying soil from a nearby construction site went off the road and into Stevens Creek Reservoir. The driver was able to exit the vehicle prior to the truck entering the water and was uninjured.

The vehicle recovery operation involved Valley Water's EH&S Emergency Response Team and staff from the Rinconada Water Treatment Plant and Coyote Pumping Plant facilities, Santa Clara County Sheriff and California Highway Patrol. Approximately 150 feet of absorbent log booms and 150 feet of barrier log booms were deployed to establish primary and secondary containment. No leaks were detected from the truck's diesel fuel tank. Valley Water staff collected water samples, which were analyzed by an external laboratory.

Boom deployment at Stevens Creek Reservoir.

Financial Information

In FY20, 83% of the annual project budget was expended.

Expenditures under this project can fluctuate widely based on the following:

1. The number of calls received on the Pollution Prevention hotline;
2. The number of calls requiring a field response;
3. The varying amount of time required to resolve/mitigate once in the field; and
4. The unspecified amount of waste to be disposed under the Emergency Response Program.

Financial Summary ($ Thousands)
B5. Hazardous Materials Management and Response

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$30	$0	$30	$25	$0	$25	83%	$618	29%

Opportunities and Challenges

Multiple incidences

Occasionally, multiple incidents occur on the same day and the current Emergency Response Program may potentially have trouble meeting the two (2) hour response goal. However, this rarely occurs and has not prevented Valley Water from meeting the KPI.

Response times

Other challenges to meeting timeliness performance standards include accessing remote locations or encountering traffic when traveling to various locations in the county. It is also critical that Valley Water's Pollution Hotline Program staff maintains good working relationships with other response agencies and be trained and equipped to continue to respond effectively to a wide array of pollutants and hazardous substances.

Table B5

Fiscal Year	Total Reports	Total Responses*	On-site Responses Classified as "Urgent"	Countywide Average Response Time
2019–2020	85	37	20	89 minutes

*The remaining 48 calls did not receive on-site responses because they were outside of Valley Water's jurisdiction, were reporting an event that occurred in the past and already mitigated, or were addressed by another Valley Water team.

Graffiti in Adobe Creek channel.

ON TARGET

Project B6 FY20 Highlights

- Conducted four (4) litter cleanup events, which removed 87 tons of debris from 372 sites countywide.
- Conducted four (4) graffiti cleanup events, which removed 104,099 square feet of graffiti at 1,813 sites throughout the county.
- Logged 294 complaints regarding illegal dumping and trash and 40 complaints regarding graffiti.

Project B6

Good Neighbor Program: Remove Graffiti and Litter

This project allows Valley Water to continue responding to complaints about illegal dumping, trash and graffiti on Valley Water property and rights-of-way. Cleanup efforts include graffiti removal from headwalls, concrete embankments, signs, structures and other Valley Water assets, as well as maintaining, repairing and installing fences and gates so that Valley Water structures and facilities remain safe and clean. The project also includes quarterly cleanups of problem sites to help reduce waterway pollution and keep creeks and riparian areas free of debris.

Benefits

- Reduces trash and contaminants in local waterways
- Improves the appearance of waterways in neighborhoods and parks by removing trash, graffiti and litter as well as illegally dumped items such as cars, shopping carts, appliances, etc.
- Reduces illegal dumping into or near waterways by repairing and installing fencing on Valley Water property
- Provides coordinated response to community complaints about trash and graffiti in neighborhoods

Key Performance Indicators (15-year Program)

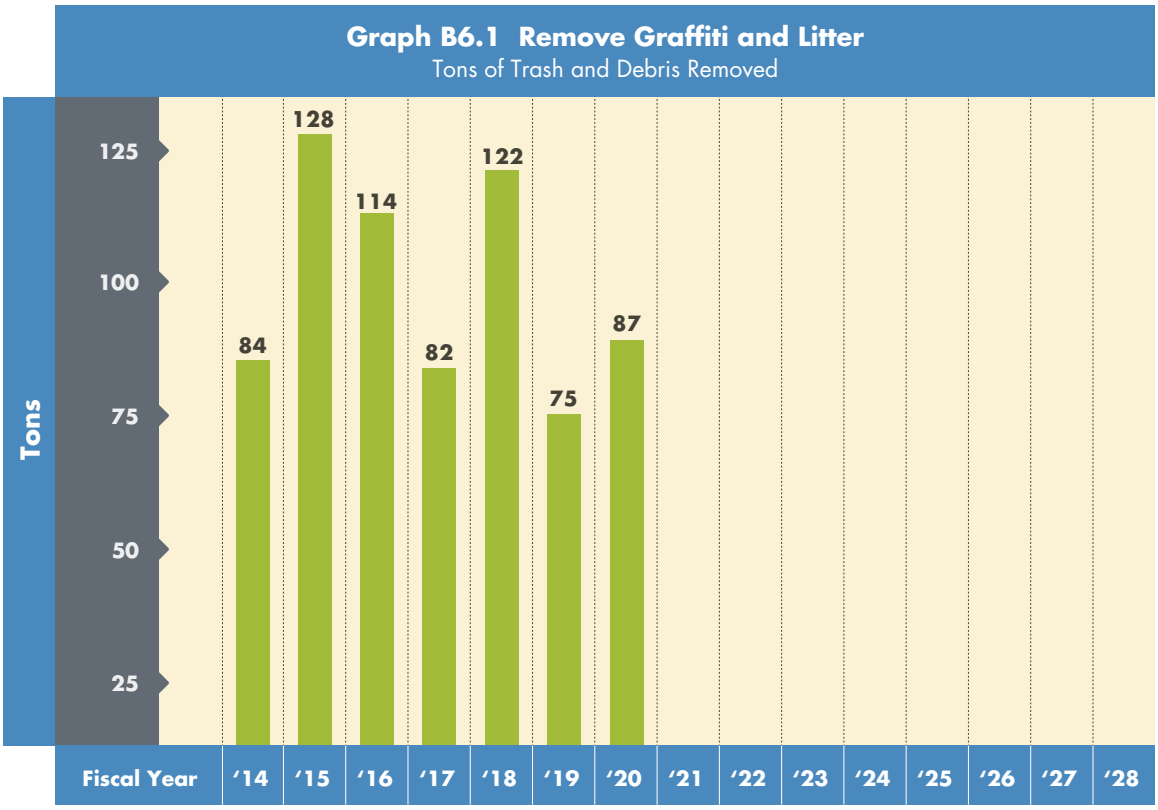
1. Conduct 60 cleanup events (4 per year).
2. Respond to requests on litter or graffiti cleanup within 5 working days.

Geographic Area of Benefit Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET



Progress on KPI #1:

- Conducted four (4) litter cleanup events (1 per quarter), which consisted of removing trash and debris from a total of 372 sites throughout the county. These sites were identified as trash hot spots where Valley Water had fee title. In total, 87 tons (1,219 cubic yards) of debris was removed countywide (Graph B6.1).
- Conducted four (4) graffiti cleanup events at multiple sites throughout the county (1 per quarter). The quarterly graffiti cleanup events consist of removing graffiti from identified hot spots and from sites based on inspection or citizen complaint. In FY20, a total of 104,099 square feet of graffiti was removed at 1,813 sites throughout the county.

Progress on KPI #2:

- Logged 294 complaints regarding illegal dumping and trash and 40 complaints regarding graffiti on the online customer service center--Access Valley Water (AVW). All AVW complaints were responded to within five (5) days or less (2 days on average) regarding scheduling the planned activity. Each complaint must be assessed to determine whether the reported location is on Valley Water property. For graffiti complaints on Valley Water property, work was completed on average within 24 hours of being reported to the outside contractor.
- Valley Water staff also completed a 4,000-feet-long fence replacement project along Coleman Road, between Meridian Avenue and Almaden Expressway, in San José. In response to community concern,

the 42-inch-high fence was replaced with a 6-foot-high fence because it was ineffective in controlling unauthorized access to Valley Water property.

Financial Information

In FY20, 136% of the annual project budget was expended.

The overspending was due to an unexpected fence replacement project and also an increase in trash in the creeks and riparian corridors.

Financial Summary ($ Thousands) B6. Good Neighbor Program: Remove Graffiti and Litter								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$535	$0	$535	$727	$0	$727	136%	$10,038	38%

Opportunities and Challenges

Volunteer Creek Cleanup Partnership Program

The interest and enthusiasm for volunteer cleanup is very high, although volunteer activities were impacted by the COVID-19 pandemic. Some activities appear to overlap with activities covered in Projects B2, B3, B4, B6, and B7. To achieve cost-effectiveness and avoid duplication, additional coordination among these projects continued to optimize the use of the various funding sources. For additional information on the volunteer program, please see Project B7.

Contractor Services

The approach of utilizing the services of a contractor to remove graffiti has proven to be successful for Valley Water. In FY20, the contractor conducted monthly inspections of five (5) specific geographic locations with subsequent removal of any graffiti found. Utilizing a computer application for smart phones, the contractor also responded to 1,813 sites resulting in removal of 104,099 square feet of graffiti. On average work was completed in less than 24 hours of being reported. Because of the success of this program, graffiti removal will continue to be addressed by a contractor in FY21.

Project B7

Support Volunteer Cleanup Efforts and Education

This project provides grants and partnerships for cleanup, education, outreach and watershed stewardship activities. Funding also allows Valley Water to continue supporting volunteer cleanup activities such as National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up, and Adopt-A-Creek, as well as Creek Connections Action Group and creekwise education.

Volunteers collect trash on Coastal Cleanup Day.

ON TARGET

Project B7 FY20 Highlights

- FY20 was not a grant cycle year for Project B7.
- Continued administering 13 open grants and partnerships
- Continued to fund three (3) of the four (4) countywide volunteer cleanup activities prior to the countywide shelter-in-place order for COVID-19.

Benefits

- Reduces contaminants entering our waterways and groundwater
- Engages community, and supports watershed stewardship
- Leverages volunteer community resources for efficient use of funds

Key Performance Indicators (15-year Program)

1. Provide 7 grant cycles and 3 partnerships that follow pre-established competitive criteria related to cleanups, education and outreach, and stewardship activities.
2. Fund Valley Water support of annual National River Cleanup Day, California Coastal Cleanup Day, the Great American Pick Up; and fund the Adopt-A-Creek Program.

Geographic Area of Benefit: Countywide

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- FY20 was not a grant cycle year for Project B7.
- From FY14-19, 19 grant projects and one (1) partnership were awarded for a total of $878,406. Of these, seven (7) have been completed and closed.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Valley Water grant-funded Guadalupe River Park Conservancy's mural painting underneath the Coleman Ave. bridge.

Progress on KPI #2:

Continued funding of countywide volunteer cleanup activities (Graph B7.2):

- ***National River Cleanup Day (NRCD) (May 16, 2020):*** Site coordinator signups were opened with great interest, but the event was ultimately cancelled due to the countywide guidance around the COVID-19 pandemic. In lieu of NRCD 2020, Valley Water staff posted several messages on social media to promote creek adoption through the Adopt-A-Creek program to increase community participation. Staff anticipates a need for more Adopt-A-Creek partners to help with creek cleanup activities after the countywide shelter-in-place order is lifted as more and more personal protective equipment (PPE) have been discarded on the ground.
- ***Coastal Cleanup Day (September 21, 2019):*** 2,166 volunteers removed about 53,300 pounds of trash including 4,404 pounds of recyclables along 58 miles of creeks in Santa Clara County.
- ***Great American Litter Pickup:*** The Great American Litter Pickup 2020 was cancelled due to the countywide shelter-in-place order to slow the spread of COVID-19.
- ***Adopt-A-Creek (year-round):*** This year, the program went through a thorough permit renewal assessment process. It was determined that various partners had moved out of the area and/or were no longer interested in the Adopt-A-Creek (AAC) Program. Permits are currently being renewed and we are currently at 43 active adopted sites with groups committing to host a minimum of two (2) cleanup events per year. Partners continue to utilize the online customer service center, Access Valley Water, to report cleanup numbers and request trash pickups. Staff continue to utilize social media to outreach and increase awareness of the program.

Financial Information

In FY20, 88% of the annual project budget was expended.

The under-expenditure was because funds used for partnerships was less than expected. Additionally, due to the cancellation of National River Cleanup Day, the funds allocated for supplies were unspent.

Financial Summary ($ Thousands)
B7. Support Volunteer Cleanup Efforts and Education

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$190	($110)	$80	$70	$0	$70	88%	$2,430	58%

Opportunities and Challenges

Safe, Clean Water Grants Program Improvements

During the FY19 Annual Report review, the Independent Monitoring Committee (IMC) recommended evaluating the effectiveness and efficiency of the administration of the Safe, Clean Water Grants Program for Projects A2, B3, B7, D3 and Clean, Safe Creeks grants. Valley Water staff continues to identify areas to streamline the grant administration and grant application processes, especially after multiple staffing transitions and the continued build out of the online grants management system, Fluxx. The Board Audit Committee approved a desk audit of the grants program by an external auditor in FY20. The outcome of the desk audit was the recommendation for a subsequent performance audit for the grants program. Staff will work with the external auditor to identify streamlining opportunities and collect the IMC's requested metrics and will present the performance audit results to the IMC upon completion.

COVID-19 Impacts to Safe, Clean Water Grants Program

In March 2019, the Santa Clara County Public Health Officer issued countywide guidance to slow the spread of coronavirus in our community. The countywide guidance included a shelter-in-place order and other restrictions, which impacted many grant projects especially those interfacing with the public and involving work outdoors. Valley Water staff continues to support grantees in navigating project implementation during the pandemic. Grantees are finding creative ways to continue their project activities in alignment with the public health guidance. However, staff has received several time extension requests, schedule adjustment inquiries, and delays to agreement executions due to the impacts of COVID-19 on grantees. Staff will continue to monitor these projects and work with grantees to address these unforeseen changes.

Volunteer Creek Cleanup Partnership Program

Valley Water attends monthly Creek Partners meetings with the City of San José for better coordination on cleanup efforts and for ongoing communication with various community organizations.

Internally, Valley Water holds quarterly meetings to improve coordination among staff working on various pollution prevention priority projects to achieve cost-effectiveness and avoid duplication. Furthermore, Project B1 Impaired Water Bodies Improvement, continues to fund part-time assistance in support of Project B7, the Adopt-A-Creek program, which greatly benefits the interagency urban runoff program.

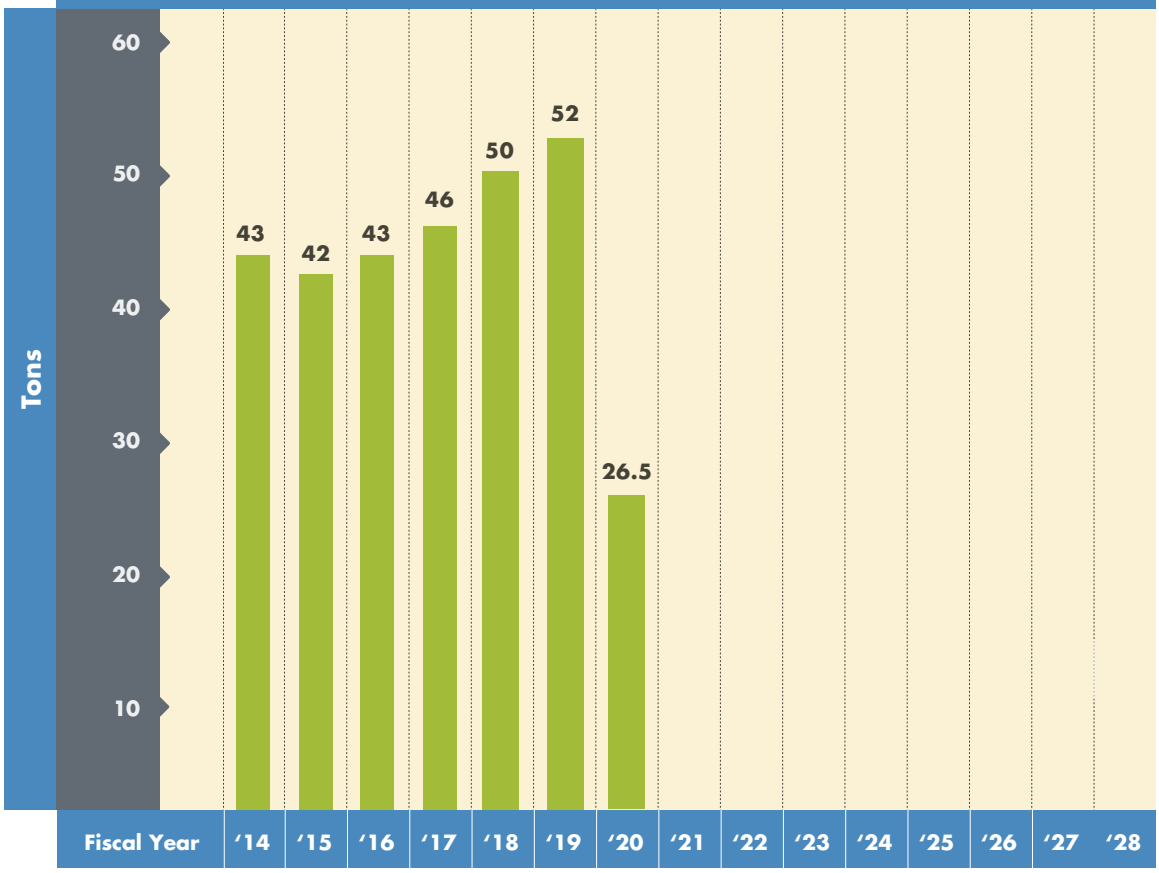
Annual Volunteer Recognition Event

As an opportunity for continued improvement of the Adopt-A-Creek program, and to further connect with volunteers, each winter Valley Water holds a volunteer recognition event for AAC partners and National River Cleanup Day and Coastal Cleanup Day site coordinators. The event continues to serve as an opportunity to recognize volunteers and their contributions in maintaining clean and healthy creeks and to help recruit new AAC partners. The next volunteer recognition event is planned for winter of 2020, pending the public health order and COVID-19 conditions.

Creek Stewardship Activities

In light of the countywide shelter-in-place order, large group cleanup events and activities were cancelled. With the uncertainties as to when the order will be lifted to allow for mass gatherings, Valley Water staff is identifying opportunities and alternatives to host smaller scale cleanups and stagger volunteer cleanup activities to avoid large group gatherings. Staff is also looking at how to utilize social media to promote "virtual" cleanup activities.

Graph B7.2 Support Volunteer Cleanup Efforts and Education
Tons of Trash and Debris Removed



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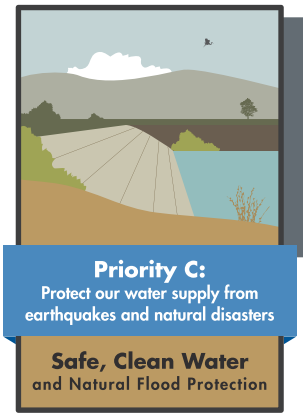


Priority C

Protect our Water Supply from Earthquakes and Natural Disasters

Projects under Priority C include retrofitting to protect our water supply infrastructure from the impacts of natural disasters, like earthquakes. It also includes emergency flood response enhancements to improve communication between responders and help reduce damages from floods.

Project C1
Anderson Dam Seismic Retrofit

Project C2
Emergency Response Upgrades

Anderson Dam

ON TARGET

Project C1 FY20 Highlights

- Completed the first fund transfer in FY16 and the final transfer is scheduled for FY28.

Project C1

Anderson Dam Seismic Retrofit

Anderson Reservoir is currently limited in its capacity due to seismic concerns, costing Santa Clara County valuable drinking water resources. This project covers earthquake retrofitting of Anderson Dam to improve reliability and safety, and returns the reservoir to its original storage capacity.

Anderson Dam creates the county's largest surface water reservoir—Anderson Reservoir— which stores local rainfall runoff and imported water from the Central Valley Project. The reservoir is an important water source for treatment plants and the recharge of the groundwater basin. Besides restoring drinking water supplies, the upgrade also supports compliance with environmental regulations. Valley Water's regular reservoir releases ensure that downstream habitat has healthy flows and temperatures to sustain wildlife.

A breach of Anderson Dam at full capacity could have catastrophic consequences, including inundation of surrounding land more than 30 miles northwest to San Francisco Bay, and more than 40 miles southeast to Monterey Bay.

In December 2016, the Board was informed by Valley Water that findings from the geotechnical and geologic investigations performed during the project's design phase led to the conclusion that a more extensive dam retrofit than had originally been envisioned would have to be performed. Further, the Board was informed that the more extensive retrofit work would double the previous project's estimated cost. Valley Water presented the Board with a water supply cost-benefit analysis that showed the benefits of the more extensive retrofit project significantly outweighed the cost of not proceeding with the retrofit, which would require Valley Water to purchase additional imported water every year to make up for the loss of long-term storage at Anderson Reservoir. Based upon this information and analysis, the Board directed Valley Water to continue work on this critical infrastructure project.

Benefits

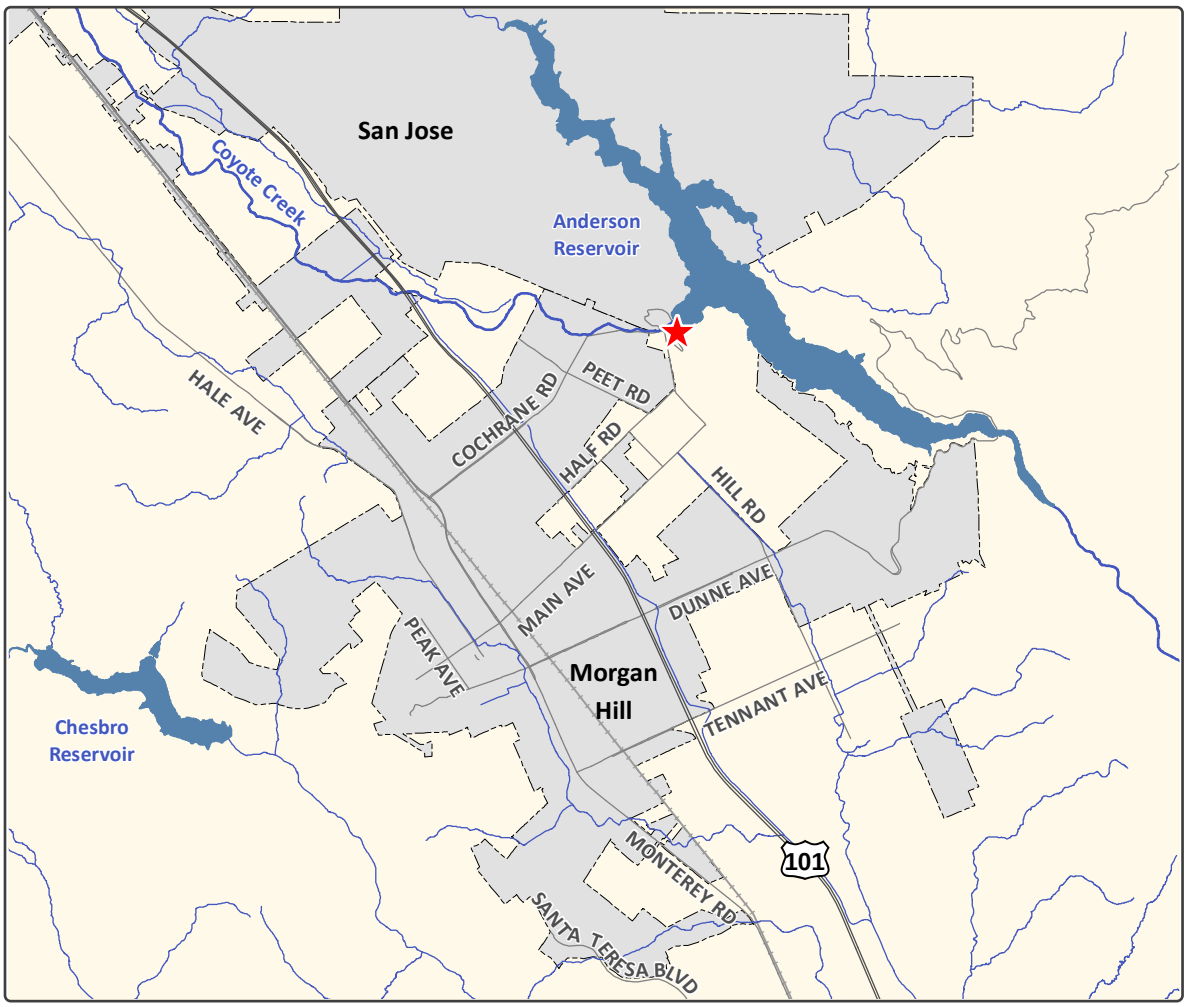
- Brings the dam into compliance with today's seismic standards
- Increases reliability and safety of our area's largest reservoir by protecting it from earthquakes
- Eliminates operational restrictions issued by the state Department of Water Resources Division of Safety of Dams (DSOD) which would restore Anderson Reservoir to its full capacity of approximately 90,373 acre-feet, regaining 48% or about 43,500 acre-feet of water storage for our current and future water supply
- Ensures compliance with environmental laws requiring reservoir releases that maintain appropriate flows and temperatures to support downstream wildlife habitat
- Minimizes the risk of uncontrollable releases from the reservoir which could cause downstream flooding

Key Performance Indicator (15-year Program)

1. Provide portion of funds, up to $45 million, to help restore full operating reservoir capacity of 90,373 acre-feet.

Geographic Area of Benefit: Countywide

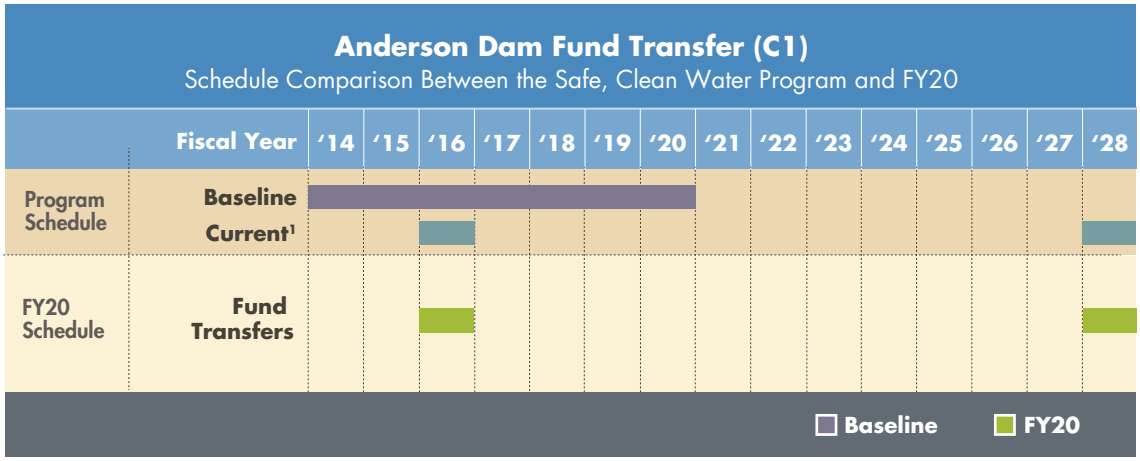
Project Location



Legend

★ Project Location	Santa Clara County Cities
— Coyote Creek	Santa Clara County

Schedule



[1] Board approved a schedule adjustment through the change control process in FY17.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- The first fund transfer was completed in FY16 and the final transfer is scheduled for FY28.

Financial Information

In FY20, there was no budget allocation for this project.

The total Safe, Clean Water Program funding level for this project was presented in 2012 dollars at $45 million; however, this amount is subject to inflation and the adjusted 15-year plan is $67.1 million. These funds will reimburse the Water Utility Enterprise Fund for the Anderson Dam Seismic Retrofit Project (ADSRP) and will be distributed in two (2) payments; the first payment of $14 million was transferred in FY16, and the remainder is scheduled to be transferred in FY28.

Opportunities and Challenges

Progress

In FY20, project design work continued with the 90% design plan preparation underway.

At the May 26, 2020, Board meeting, Valley Water reported that the estimated total project cost, accounting for inflation, has increased to $576 million. This estimate is based on the 60% design and development of construction sequencing. This project cost is included in Valley Water's FY21-25 Capital Improvement Program (CIP).

In February 2020, Federal Energy Regulatory Commission (FERC), the federal dam regulator, ordered Valley Water to immediately implement risk reduction measures to protect the public from the risk of Anderson Dam failure due to seismic activity, and develop and implement necessary avoidance, minimization and mitigation measures. The FERC order included maintaining Anderson Reservoir at a level no higher than 565 feet elevation immediately and begin lowering the reservoir to an elevation of 488 feet in a safe manner no later than October 1, 2020. (This essentially means almost emptying the reservoir.)

In compliance with the FERC Order, Valley Water immediately restricted the reservoir to 565 feet elevation; began defining the interim risk reduction measures; and initiated emergency consultation processes regarding adverse environmental impacts of these interim risk reduction measures with the regulatory agencies, as appropriate. Furthermore, Valley Water proposed a project that is described in the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (FOCP) Engineer's Report. The proposed project would:

a. allow Valley Water a way to safely, reliably and expeditiously draw down Anderson Reservoir (Reservoir) and maintain the Reservoir at a required lower elevation;

b. minimize risks associated with exceeding the restricted Reservoir level and an undersized outlet structure by constructing a new, low-level outlet;

c. prioritize the interim downstream protection of residents and property; and

d. minimize the public health and safety and environmental impacts of reservoir drawdown.

A public hearing for the Engineer's Report for the FOCP was opened on June 9, 2020. The hearing closed and the Valley Water Board approved the Engineer's Report on June 23, 2020. The Engineer's Report is available on Valley Water website at: https://www.valleywater.org/public-review-documents

At the meeting, the Board also approved the project's CEQA emergency exemption determination in accordance with the California Environmental Quality Act (CEQA) guidelines. CEQA provides a statutory exemption for emergency projects, which include specific actions necessary to prevent or mitigate an emergency.

Valley Water continues to work with FERC to update the environmental/construction schedule of the ADSRP. It plans to release the ADSRP Draft Environmental Impact Report (EIR) for public review in June 2021.

Valley Water is working closely with FERC and regulatory permitting agencies to begin construction of the tunnel and the low-level outlet (part of FOCP) in 2021, provided the required permits are received on time and a qualified construction contractor is hired. Construction is estimated to take approximately two to three years. This schedule conforms to the February FERC directive to prioritize the early construction of a new low-level outlet.

The outlet will allow Valley Water to reliably and quickly draw down the reservoir, thus providing greater control over the water levels and increased public safety. Construction of the remaining ADSRP elements, including the high-level outlet works and removing and reconstructing the spillway and the dam embankment will then commence and will take seven to eight years and is dependent on the permit requirements and the field conditions.

Valley Water has been working closely with the regulatory agencies since early 2018. Valley Water is regularly holding interagency consultation meetings with key regulatory agencies. These were held in August and October of 2019, and February, April, and June of 2020. Valley Water continued to engage key agencies through FY20 for negotiating and securing the necessary permits for project construction.

Valley Water also continued to work with other stakeholders, including the Santa Clara County Department of Parks and Recreation (SCCParks), and the community at large. Staff also provided the Valley Water Board regular updates on the project progress. Regular monthly meetings were held with SCCParks. During the COVID-19 pandemic shelter-in-place, Valley Water held a virtual community meeting on May 28, 2020, to provide a status update on the project.

Permits

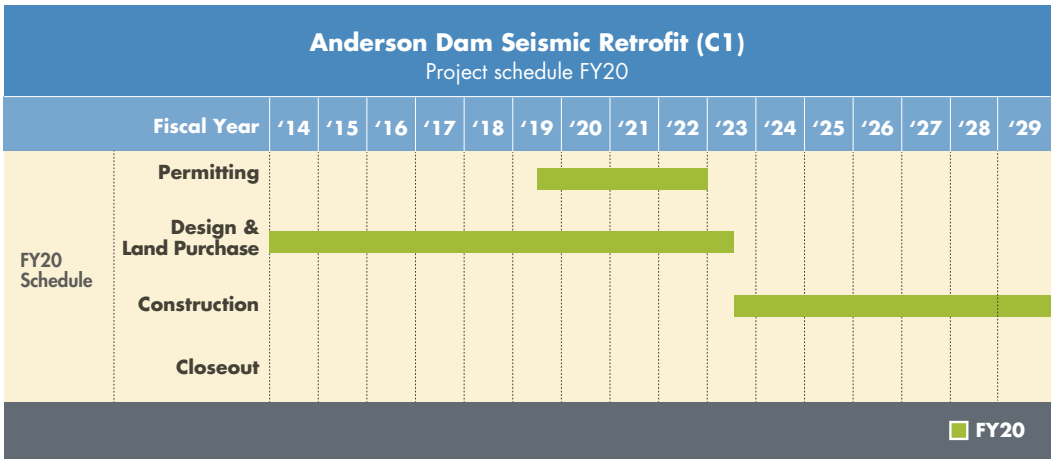
While the FOCP and the ADSRP are two separate independent projects, Valley Water's goal is to incorporate most FOCP infrastructure into the future ADSRP infrastructure and facilities. CEQA and NEPA compliance and regulatory approval processes for the ADSRP continue in parallel to the approval, construction and operation of the FOCP.

FERC is the lead agency under the National Environmental Policy Act (NEPA) and will prepare an Environmental Assessment (EA) in support of its ordered dam safety directive. To comply with NEPA, FERC determined it would conduct an expedited review that will consider environmental effects, minimization and mitigation measures. In accordance with applicable emergency NEPA regulations, FERC determined it will prepare a streamlined and concise Environmental Assessment of the IRRMs as information regarding their implementation becomes available.

The proposed projects are covered activities under the Santa Clara Valley Habitat Plan (VHP), and the VHP will provide the federal Endangered Species Act and state Natural Community Conservation Planning Act compliance for several special-status species the project may affect, including California tiger salamander, California red-legged frog and Coyote ceanothus. Consistent with Habitat Plan requirements, Valley Water has consulted with wildlife agencies with project-specific design and construction details. Several additional informal consultation efforts have also occurred with individual regulatory agencies, including site visits with the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board/State Water Resource Control Board and National Marine Fisheries Service (NMFS).

Additionally, Coyote Creek downstream of Anderson Dam is a designated critical habitat for Central California Coast steelhead and essential fish habitat for Chinook salmon. Early coordination with resource agencies indicates potential construction-related water quality concerns, fish passage considerations and operational effects will require appropriate evaluation. A series of informal consultations were conducted with NMFS and California Department of Fish and Wildlife on these issues throughout the year.

The Draft EIR, estimated to be released for public review in June 2021, will further evaluate the magnitude of impacts of implementation of the project. Valley Water will continue to engage natural resource agencies through development of environmental documentation to support natural resource permitting efforts.



New statutes and regulations

As part of the planned seismic retrofit work, the dam's emergency spillway walls are to be raised to accommodate the Probable Maximum Flood. In February 2017, major winter storms resulted in significant damage and erosion of the Oroville Dam's spillways in northern California. As a result, the Division of Safety of Dams (DSOD) and FERC ordered a detailed condition assessment of the Anderson Dam spillway before the next flood season. The Anderson Dam spillway condition assessment was performed in October 2017, and the findings indicated that the existing spillway is in an acceptable, serviceable condition for the interim period before the project's construction. However, the spillway does not meet current standards and has the potential for an Oroville-type failure. Staff informed the Valley Water's Board in January 2018 that it would be prudent and cost-effective to achieve current spillway construction standards by replacing the spillway during the dam seismic retrofit project. The construction cost estimate for full reconstruction of the spillway is between $10 million and $15 million. Spillway reconstruction would be concurrent with the embankment construction and would not extend the project's construction period.

View to Valley Water's online inundation map at can be viewed on the C1 website, under Reports and Documents: https://www.valleywater.org/sites/default/files/Anderson%20Dam%20Inundation%20Maps%202016.pdf.

Confidence levels

Schedule: Moderate confidence

The ADSRP will require additional time to prepare design plans and specifications and the environmental impact report. This is because of the FERC Order requiring Valley Water to expedite completing the plans and specifications for the FOCP first. The current estimated start of construction for FOCP is 2021 and for ADSRP is 2024.

Funding: High confidence

At the May 27, 2020, Board meeting, Valley Water reported that the estimated total ADSRP cost, accounting for inflation, has increased to $576 million. This estimate was based on the 60% design and is included in Valley Water's FY21-25 CIP.

However, on June 23, 2020, the Board approved the FOCP Engineer's Report, which included a total cost of the proposed FOCP of $293 million (in 2020 dollars). There are sufficient funds in the FY21 Project No. 91864005 budget to fund the proposed FOCP. An adjustment to the total project cost may be necessary in the future depending on how the FOCP work progresses.

Permits: Moderate confidence

Anderson Dam is operated under licenses from DSOD and FERC. The project design will require their approval before construction. The permits from these agencies will depend mostly on the technical complexity of the project. DSOD and FERC will review the project at various design stages to facilitate issuance of the permits from the different agencies that will be required for this project, including: USACE, NMFS, California Department of Fish and Wildlife, California Department of Industrial Relations/California Occupational Safety and Health, State Water Resources Control Board, and the Santa Clara Valley Habitat Plan. The schedule for some of these permits cannot be easily predicted.

Jurisdictional Complexity: Moderate confidence

Valley Water owns and operates Anderson Dam and Reservoir, which are located within the City of Morgan Hill. Santa Clara County Parks manages the recreational activities at Anderson Reservoir through a lease agreement with Valley Water. Valley Water is working with these various agencies throughout the project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project C2

Emergency Response Upgrades

This project covers the development of an automated flood warning system that uses real-time rainfall data to predict stream flows and potential flood risk. The system efficiently disseminates information to emergency responders and the public using the web, text, automated calls and other technologies, allowing more time to activate flood-fighting measures and reduce flood damage.

X-Band radar atop Penitencia Water Treatment Plant.

ON TARGET

Project C2 FY20 Highlights

- Actively engaged with the National Oceanographic and Atmospheric Administration (NOAA) team to implement the Advanced Quantitative Precipitation Information (AQPI) System.
- Began using AQPI System forecasts operationally.
- New X-Band radar atop Penitencia Water Treatment Plant now permanently installed and permitted.
- Began work on a new website integrating the stream gauge network, historic data, and forecast data.

Benefits

- Enhances interagency response to storm-related emergencies
- Improves the accuracy of flood forecasting services
- Helps municipalities and neighborhoods lessen flood impacts
- Maintains access to technical resources that assist municipalities with floodplain management
- Promotes community awareness of flood risks
- Implements risk reduction strategies consistent with the Federal Emergency Management Agency's (FEMA) Community Rating System as appropriate

Key Performance Indicator (15-year Program)

1. Map, install, and maintain gauging stations and computer software on 7 flood-prone reaches to generate and disseminate flood warnings.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- In FY19, Valley Water installed its seventh gauging station and in FY20, it continued to maintain these flood forecast points and computer software

to generate and disseminate flood warnings. Listed below are the seven flood-prone reaches that now generate flood forecasts:

- San Francisquito Creek
- Ross Creek
- Upper Guadalupe River
- West Little Llagas Creek
- Uvas Creek
- Upper Penitencia Creek
- Canoas Creek

- Valley Water has been actively engaged with the National Oceanographic and Atmospheric Administration (NOAA) team at the Earth System's Research Laboratory in Boulder, Colorado, to implement the Advanced Quantitative Precipitation Information (AQPI) System. The direct benefit to this project will be a customized rainfall forecast for Valley Water by NOAA that leverages new radar technologies. In FY20, Valley Water began using these forecasts operationally. However, NOAA still has significant work to accomplish before these forecasts reach their full potential.
- The new X-Band radar atop Penitencia Water Treatment Plant is now permanently installed and permitted. This system gives high resolution radar data, which helps pinpoint where the most intense rainfall is taking place and how to facilitate flood responses.
- In FY20, work began on a new website integrating the stream gauge network, historic data and forecast data. This new website will consolidate the wealth of data and disseminate warnings.

Financial Information

In FY20, 95% of the annual project budget was expended.

Financial Summary ($ Thousands) C2. Emergency Response Upgrades								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$309	$0	$309	$294	$0	$294	95%	$3,357	65%

Opportunities and Challenges

Coordination with Project E2: Emergency Response Planning

When applicable, the flood-forecasting products and data collected under Project C2: Emergency Response Upgrades is also being incorporated into Project E2: Emergency Response Planning documents to help inform

decision makers. For example, technical mapping and flood-warning baselines produced under Project C2 are being used to update various flood-fighting action plans also known as emergency action plans (EAPs).

Project C2 focuses on the development of flood warning system infrastructure to assist flood responders by providing forecasted rainfall and stream flows and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

Coordination with other Agencies

Through the relationships built over the past several years working on this project, Valley Water has developed strong networks in the flood emergency response community with cities and NOAA. This beneficial byproduct has allowed Valley Water to build systems to exchange information quickly and regularly to prepare for and respond to flood emergencies in the future.

Modeling Software

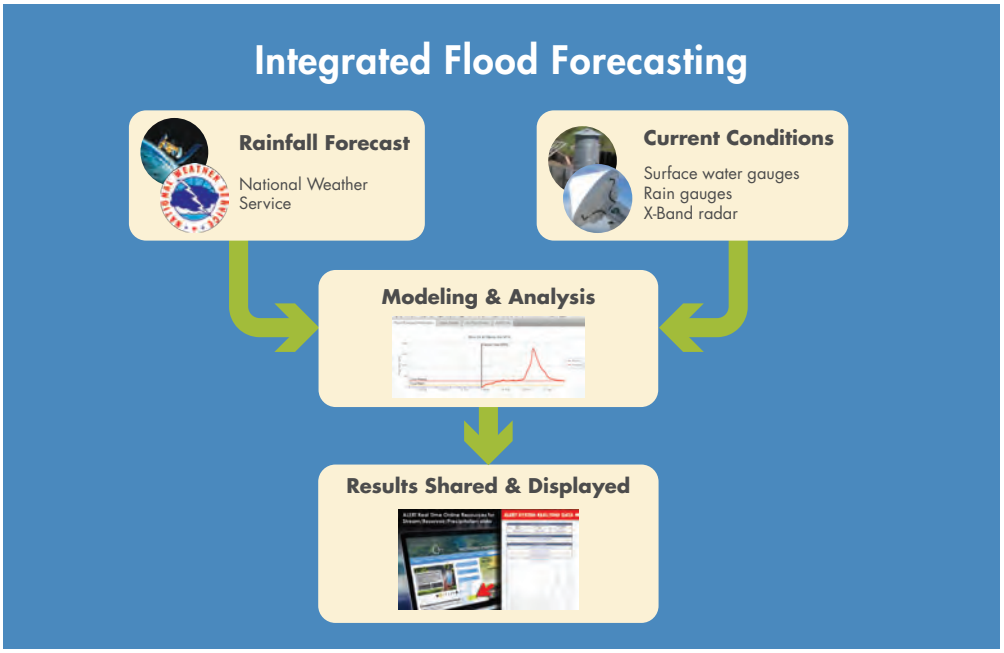
This is an area of constant improvement as Valley Water works with the software developer to add new features and adjust as each new version gets rolled out.

Rainfall Forecasts

Weather forecasts remained the biggest source of error. The AQPI project is beginning to develop forecasts to help with warning system, and Valley Water hopes to have official AQPI forecasts from the National Weather Service this upcoming winter.

New Web Portal

This project has reached a point where Valley Water can focus on data presentation. Developing this web portal presents its own source of challenges, requiring temporarily refocusing efforts away from modeling. This is an integral part of achieving the KPI for disseminating flood warnings in a robust and usable format.



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Priority D

Restore Wildlife Habitat and Provide Open Space

The eight (8) projects under Priority D restore and protect wildlife habitat and provide opportunities for increased access to trails and open space. Funding for this priority pays for control of non-native, invasive plants, revegetation of native species, and maintenance of previously revegetated areas. Other projects include removal of fish barriers, improvement of steelhead habitat and stabilization of eroded creek banks.

To support these and future restoration projects Valley Water will create a comprehensive, updated database on stream conditions countywide. Valley Water and other agencies can then use the new information to make informed decisions on where and how to use restoration dollars so they have the greatest value for wildlife.

Project D1
Management of Revegetation Projects

Project D2
Revitalize Stream, Upland and Wetland Habitat

Project D3
Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

Project D4
Fish Habitat and Passage Improvement

Project D5
Ecological Data Collection and Analysis

Project D6
Creek Restoration and Stabilization

Project D7
Partnerships for the Conservation of Habitat Lands

Project D8
South Bay Salt Ponds Restoration Partnership

Revegetation at Permanente Creek.

ON TARGET

Project D1 FY20 Highlights

- Maintained 334 acres of revegetation projects at 104 sites countywide.

Project D1

Management of Revegetation Projects

This project supports Valley Water maintenance of at least 300 acres of existing revegetation projects throughout the 5 watersheds, and provides for maintenance of future revegetation sites. Funding for this project ensures that design objectives of all revegetation projects are maintained during the establishment period so that mitigation results in functional habitat that can support wildlife.

Benefits

- Maintains 300 acres of existing revegetation
- Allows Valley Water to monitor plant survival and habitat functions
- Complies with environmental laws requiring habitat mitigation for flood protection and water supply projects
- Provides for maintenance of future revegetation sites

Key Performance Indicator (15-year Program)

1. Maintain a minimum of 300 acres of revegetation projects annually to meet regulatory requirements and conditions.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	NOT ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

In FY20, Valley Water maintained 334 acres of revegetation projects. Maintenance work included invasive plant control, pruning, mowing and irrigation of 19 recently planted sites, which require more maintenance, and 104 established sites, which require a lower level of maintenance, throughout all five (5) watersheds in Santa Clara County.

Financial Information

In FY20, 75% of the annual project budget was expended.

The under-expenditure was due to the decline in the availability of internal and external labor due to the impacts of COVID-19 pandemic. Eight (8) Valley Water staff within Vegetation Field Operations were on COVID-19 related leaves throughout the last quarter (May-June) of FY20. In addition, external contract labor was initially reduced by 50% to accommodate social distancing within vehicles that transport external labor to work with Valley Water's Vegetation Field Operations crews. Valley Water expects to be on track with its financial expenditures in the coming fiscal years with the addition of new positions that will be requested in FY21.

Financial Summary ($ Thousands)
D1. Management of Revegetation Projects

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,204	$0	$1,204	$900	$0	$900	75%	$22,259	24%

Opportunities and Challenges

Resources

In FY20, the KPI was met by supplementing available staff resources with a significant amount of outsourced labor. While this allowed Valley Water to meet its KPI, the use of outsourced labor is not sustainable. To address this, the Board approved one (1) new Maintenance Worker I (MWI) position for FY19. This position has been hired and three (3) more positions were requested for FY21 (SMW, MWIII, MWI). These position requests will now be delayed due to the COVID-19 pandemic impacts.

Phytophthora

In FY16, Valley Water informed the regulatory agencies that due to the drought and Phytophthora (plant pathogen) issues, Valley Water would not be installing new riparian planting sites. Despite this, increased maintenance is required at the existing sites to ensure survival of vegetation. In FY17, Valley Water began installing new riparian planting sites utilizing seeds, cuttings and container plants grown from nurseries that are following the Phytophthora working group's regional guidelines.

New Capital Project Mitigation

As the Safe, Clean Water capital projects are constructed, and after the initial 3-year plant establishment period, additional acreages of mitigation will become part of Project D1 and will require increased maintenance to meet their 10-year success criteria. This will require funding additional staff resources in the future.

Projections show that the following acres of mitigation will be transitioned into Project D1 resulting from the completion of specific capital projects:

- FY23 – An estimated 33 acres of mitigation from the Upper Guadalupe River, Upper Berryessa Creek, Lower Berryessa Creek, Permanente Creek and Cunningham Detention Basin Flood Protection projects.
- FY24 – An estimated 68 acres of mitigation from the Sunnyvale Channel, San Francisquito Creek, Upper Llagas Creek Phase 1, Lower Silver Creek Flood Protection projects and Hale Creek Enhancement Project.
- FY25 – An estimated 60 acres of mitigation from the Upper Llagas Creek Phase II Flood Protection Project.
- FY26 – An estimated .3 acres of mitigation from the Palo Alto Flood Basin Tidal Gate Project.
- FY27 – An estimated 3 acres of mitigation from the Almaden Lake Project.

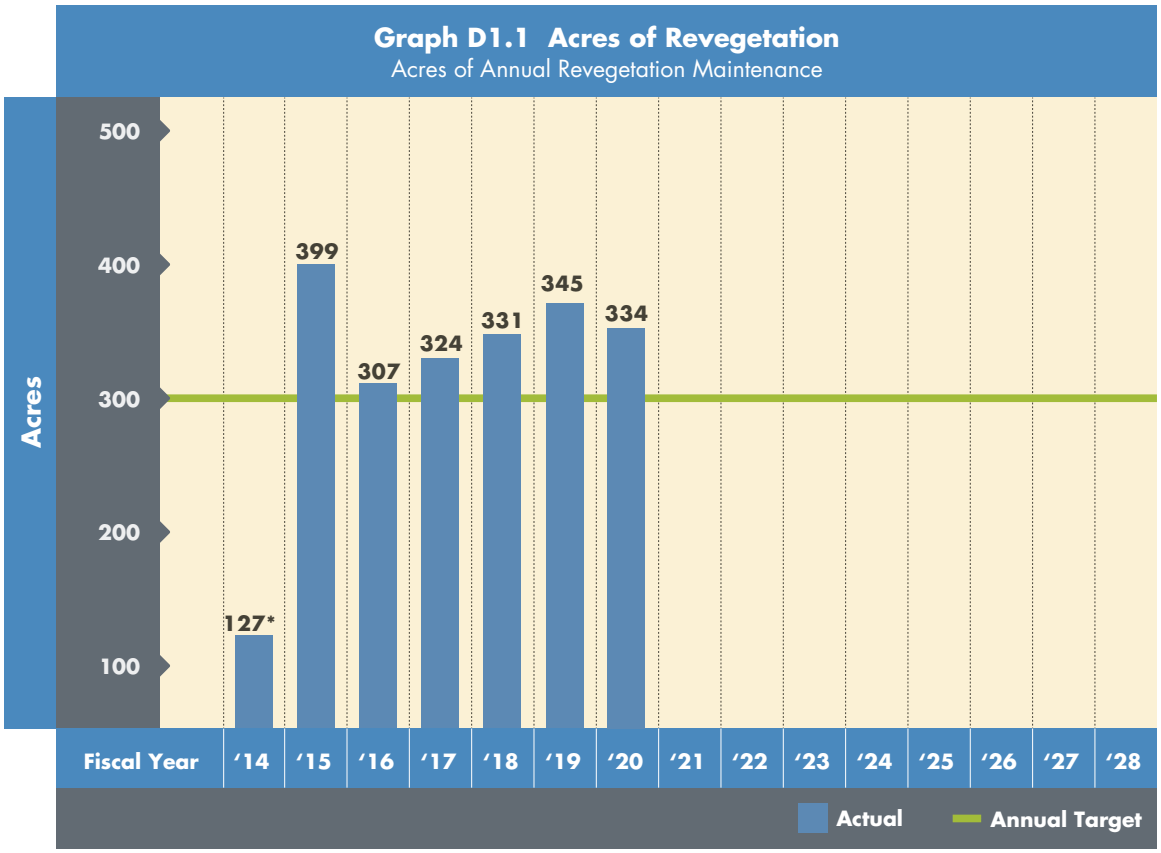
This is an increase of 164 acres of mitigation that will require significant maintenance for these projects to successfully meet their success criteria. Valley Water plans to use a combination of new staff positions that will be requested in FY22 and contract labor to supplement existing Valley Water labor resources to comply with the increased mitigation requirements.

New Stream Maintenance Program (SMP2) Permits

The SMP2 permits require a significant level of mitigation. Valley Water plans to use a combination of additional internal position to be requested and additional contract labor to supplement existing Valley Water labor resources to comply with the increasing mitigation requirements.

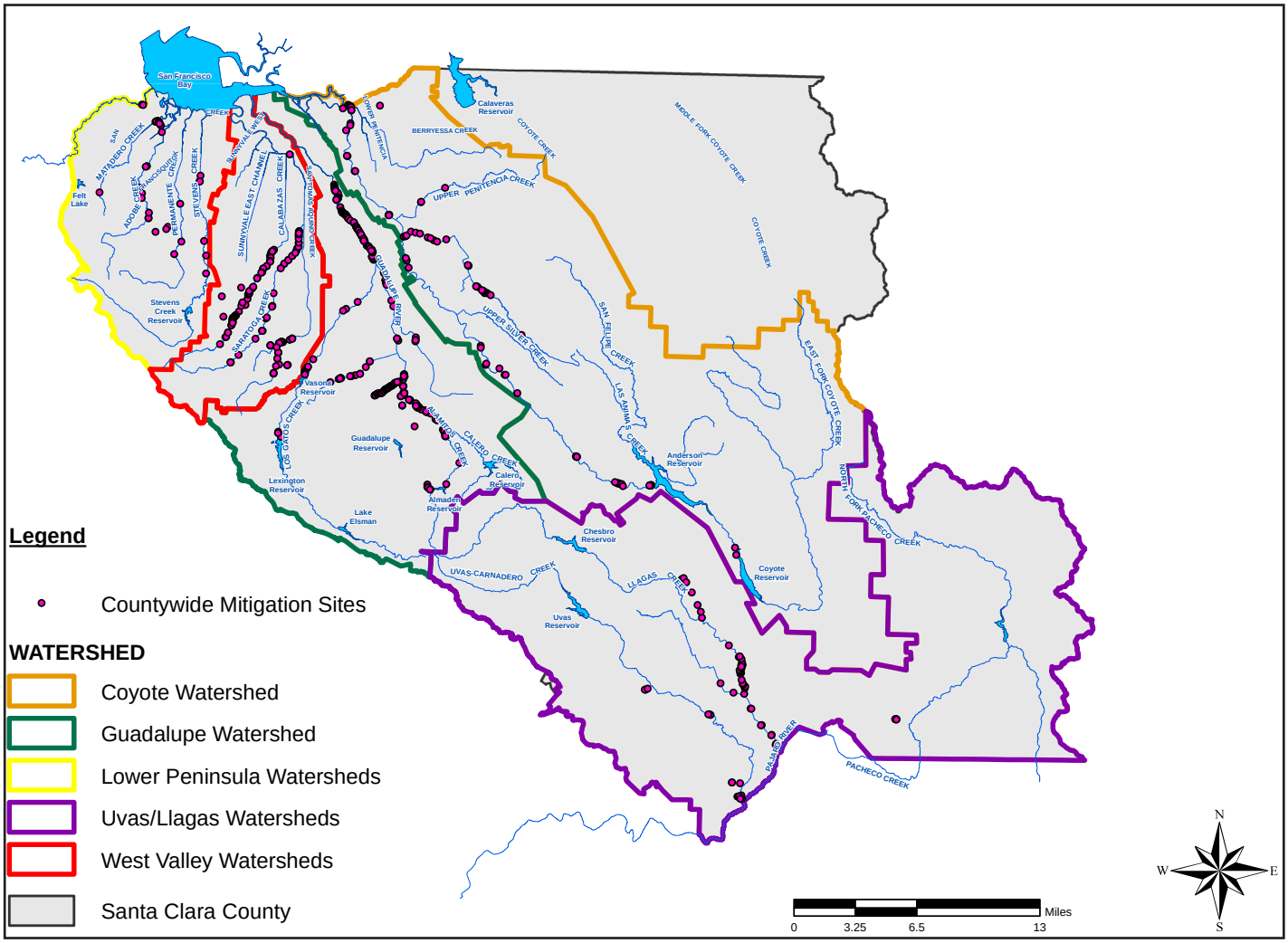
BEFORE: Guadalupe River upstream Blossom Hill, riparian planting.

AFTER: Guadalupe River upstream Blossom Hill, riparian planting.



*In FY14, the drought required much more maintenance than planned on new or revegetated plantings and thus impacted Valley Water's ability to meet the annual maintenance target.

FY20 Revegetation Maintenance: 334 Acres



Project D2

Revitalize Stream, Upland and Wetland Habitat

This project allows Valley Water to remove non-native, invasive plants and revegetate habitat with native species when needed. Funding also restores degraded habitat between revegetated sites to create a more contiguous habitat corridor for wildlife. This project includes targeted control of especially damaging non-native, invasive plant species such as *Arundo donax*, and education for nearby landowners and other stakeholder groups on the control of harmful species. This project also helps implement the Stream Corridor Priority Plans developed in Project D3.

Benefits

- Increases viability of native riparian species by reducing competition from non-native, invasive species
- Improves habitat by installing tidal and riparian plant species
- Improves ecological function of existing riparian and wetland habitats to support more diverse wildlife species
- Improves patchy wildlife corridors by increasing connectivity of habitat
- Increases community awareness about the damaging impact that non-native, invasive plants have on local ecosystems

Key Performance Indicators (15-year Program)

1. Revitalize at least 21 acres, guided by the 5 Stream Corridor Priority Plans, through native plant revegetation and removal of invasive exotic species.
2. Provide funding for revitalization of at least 7 of 21 acres through community partnerships.
3. Develop at least 2 plant palettes for use on revegetation projects to support birds and other wildlife.

Geographic Area of Benefit: Countywide

Volunteers remove invasive periwinkle at Bear Creek Redwoods Open Space Preserve.

ON TARGET

Project D2 FY20 Highlights

- Along with D2 partners, removed a total of approximately 79.2 acres of invasive and non-native vegetation stands, to date.
- In FY20, along with D2 partners removed approximately 16.0 acres of invasive and non-native vegetation strands of which 13.1 acres were new and 2.9 were maintained.
- Assisted the City of San José with obtaining environmental permits to continue controlling giant reed along Coyote Creek at Oakland Road.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

Valley Water and its D2 Project partners – the City of San José, California State Coastal Conservancy (Conservancy) and Midpeninsula Regional Open Space District (Midpen) – exceeded the KPIs by removing approximately 79.2 acres of invasive and non-native vegetation stands (10.7 acres by Valley Water and 68.5 acres in partnerships under KPI #2) through FY20. Successfully controlling invasive vegetation often requires repeated treatments at infested sites over multiple years. This is especially necessary for giant reed *(Arundo donax)* and invasive cordgrass (*Spartina alterniflora*) control. For example, giant reed sites on Coyote Creek initially treated by Valley Water's Stream Maintenance Program (SMP) must continue to be managed by the City of San José for successful revitalization. Approximately 3.3 acres of giant reed removal started by Valley Water under SMP in FY18 and FY19 on City of San José property is not counted under KPIs #1 or #2 yet, since revitalization depends on the city's ongoing efforts, as discussed under KPI #2 below.

In 2019, Valley Water began implementing the Coyote Valley Wildlife Corridor Enhancement Project, planting native valley oaks *(Quercus lobata)* and removing invasive weeds at a known wildlife corridor in Coyote Valley to help facilitate safe and effective wildlife movement through this location, and under Highway 101. Native valley oaks (*Quercus lobata*) were planted (0.01 acre) to enhance the sparse existing vegetation cover for wildlife and help direct their line of sight to the cleared culvert under Highway 101. The culvert was identified and cleared of debris in collaboration with Caltrans. Invasive plants were first controlled here in 2019 (0.5 acre) and continue to be treated in patches, where they persist among native wet meadow and grassland, improving the quality of existing habitat and preventing further spread of invasive plants into surrounding habitat.

Maps showing the invasive and non-native vegetation stands controlled, locations and additional information are provided on the Project D2 webpage:

https://www.valleywater.org/project-updates/d2-revitalize-stream-upland-and-wetland-habitat.

Progress on KPI #2: (Completed in FY19)

In FY20, Valley Water's partners continued to exceed the KPIs by removing invasive vegetation at approximately 12.62 acres to bring the total to date to 68.5 acres through community partnerships. Midpen cleared approximately 12.62 new acres and maintained control on 2.41 acres. The Conservancy continued to aggressively manage the ongoing infestation of invasive cordgrass and its hybrids in South San Francisco Bay, using D2 funds to spot-treat 0.5 acres of emerging invasive Spartina across over 4,400 acres of tidal wetland in the bay within and adjacent to Santa Clara County.

- City of San José – The City of San José has a contractor conducting vegetation management at the Coyote Creek site starting in the spring of 2020. Valley Water conducted multiple rounds of treatment to begin removing giant reed at Oakland Road over the previous two (2) years and in FY20, assisted the city with its final permit application for San Francisco Bay Regional Water Quality Control Board authorization to continue work. This permit also authorizes invasive vegetation management at other San José properties and easements.
- California State Coastal Conservancy – This partnership continues systematic control of invasive Spartina in South San Francisco Bay tidal marsh and ecotone habitats. About five (5) acres of invasive Spartina were removed from Santa Clara County, Faber and Laumeister marshes through FY20. Ongoing control work is primarily on acreage where the infestation has been tracked for multiple years and pop-up reinfestations are treated as needed, so only small acreages are likely to be added in future. This maintenance work, however, remains critical to preventing a recurrence of widespread invasion of this aggressive ecosystem engineer.
- Midpeninsula Regional Open Space District (Midpen) – The partnership focused on removing invasive and non-native vegetation at the Bear Creek Redwoods Open Space Preserve, protecting sensitive upper-watershed species and habitats, and conducting outreach on native habitat revitalization. In FY20, approximately 12.62 more acres were restored, bringing the current total for this D2 partnership to approximately 63.6 acres (see: https://www.openspace.org/our-work/projects/restoring-bcr and the Midpen map on the D2 webpage linked above).
- Valley Water continues to work with partners in the Santa Clara County Wildlife Corridors Working Group on restoring habitat connections between the Santa Cruz and Diablo mountain ranges, especially crossing Highway 101, Monterey Road, and Pacheco Pass (State Route 152). Not only does this work benefit wildlife and their genetic integrity, but also reduces vehicle impacts protecting drivers.

Progress on KPI #3: (Completed in FY15)

The two (2) plant palettes required to meet KPI #3 were created in FY15. Three (3) more palettes were developed, two (2) of which were in response to an IMC recommendation for plants that support birds and other wildlife in FY16. With the decline and concern for pollinators, Valley Water added a Santa Clara County native plant palette for bees and butterflies. All five (5) palettes are updated and available on the Project D2 webpage.

Financial Information

In FY20, 74% of the annual project budget was expended.

The underspending was because field work was stopped in spring of FY20 due to the COVID-19 pandemic.

In FY20, the adjusted 15-year plan was reduced by $3 million to offset the $3 million increase in funding required for D4: Fish Habitat and Passage Improvement Project site of Ogier Ponds. This reduction followed the October 2018 (FY19) Board decision approving $3 million for the execution of a Planning Study for Ogier Ponds and reducing D2 forecast to support the progress of Ogier Ponds project. Ogier Ponds site has been identified as among the projects that can meet the D4: Fish Habitat and Passage Improvement KPI #1 to "complete planning and design for 2 creek/lake separations.

With the completion of two of the three project KPIs (KPIs #2 and #3) and significant strides towards accomplishing and exceeding the remaining KPI #1, in FY19, Valley Water staff reduced the long-term forecast expenditure to reflect the funding required to achieve the project KPIs. By the end of FY20, Valley Water and its project partners had exceeded KPI #1 by removing approximately 79.2 acres of invasive and non-native stands. As a result, the only remaining work on the project is to manage the partnerships, maintain sites where invasive and non-native vegetation has been controlled and credited for D2, and update plant palettes as needed. Therefore, the FY20 adjusted 15-year forecast was reduced to $7.69 million.

Financial Summary ($ Thousands)
D2. Revitalize Stream, Upland and Wetland Habitat

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$939	$0	$939	$667	$25	$692	74%	$15,190	26%

Opportunities and Challenges

Early Detection and Rapid Response (EDRR)

The California Invasive Plant Council (Cal-IPC) and Calflora are improving their statewide invasive plant detection and mapping systems. Valley Water, Midpen and other resource agencies are using Calflora more extensively. CalWeedMapper, WHIPPET and Calflora are now integrated and available to the public, including access via a cell phone application. Cal-IPC and Valley Water encourage land managers to submit their invasive plant management records once a year and early-detection observations immediately. Valley Water has developed a list of high-priority emerging invasive weeds not yet present in the county, but present in neighboring counties or known to be particularly damaging in wildlands, as a preliminary step in developing a comprehensive EDRR program that would allow periodic surveying and treatment of new high-impact infestations.

Valley Water and Midpen began reinvigorating the Santa Clara Weed Management Area (SCWMA) working group in 2019 and Valley Water has hosted bimonthly meetings since April 2019 with Santa Clara County Parks, California State Parks, County of Santa Clara Division of Agriculture, Caltrans, and other area partners.

COVID-19 Pandemic Impacts

The County of Santa Clara Public Health and Governor of California shelter-in-place orders temporarily stopped D2 field work. New procedures were developed for conducting field work to protect people from infection, although these are less efficient with social distance spacing, disinfecting vehicles and equipment and personal protective equipment that is uncomfortable. Partners such as Midpen have delayed field work and community volunteer events. Meetings of the SCWMA are also temporarily on hold and will resume when possible.

Education and Outreach

Valley Water participates in scientific conferences, works with resource agencies and partners, particularly Midpen, Conservancy, City of San José, SCWMA, Calflora and Cal-IPC. Valley Water's Invasive Plant Management Plan (IPMP) under SMP was approved by Federal, State and regional resource agencies and is known by some local conservation organizations and members of the public. The D2 partnership with Midpen is important for increasing public awareness and education. Midpen organizes and participates in community and children-oriented events, docent-led activities, outdoor service projects, nature hikes and field tours, posts educational trail signs, operates a nature center and farm. More outreach could be done with schools, conservation groups, municipal park and landscape agencies. Internet sites are increasingly valuable with more in-home, distance and virtual learning. Online resources and mobile applications continue to expand on the subjects of native plant and wildlife gardening, landscaping, and plants for pollinators. Several links on these and other related subjects are available on the D2 webpage, Reports & Documents tab.

Water Molds (*Phytophthora* spp.) and Drought

Valley Water and Midpen efforts to study, plan and experiment with remediating sites infested by water molds (Phytophthora spp.) are ongoing. Some infamous examples of water molds include sudden oak death (SOD, P. ramorum) and the historic European potato famine. Infection by Phytophthora species can lead to root rot, which induces drought-like symptoms from reduced water uptake, and ultimately plant death may occur. Infected plants may not show any initial signs of the disease or stress. Water molds are a complex challenge to restoring native habitats, especially combined with other stressors; the aggressive nature and abundance of invasive plants, water supply with drought and climate change, disturbed site conditions and other plant pathogens. Improper irrigation techniques can exacerbate water mold impacts. Plant nurseries have implemented procedures to prevent Phytophthora infestations, planting techniques and best management practices (BMPs) to control the spread of plant pathogens. For more information, see the Working Group for Phytophthoras in Native Habitats (www. Calphytos. org). Collaborative efforts must continue to better understand and reduce the spread of water molds and all plant pathogens. The Project D2 webpage has several links about water molds on its Reports & Documents tab (see https://www.valleywater.org/project-updates/d2-revitalize-stream-upland-and-wetland-habitat.)

Santa Clara County was not in drought conditions through most of FY20. However, after a below average precipitation season, the United States Drought Monitor for California reported moderate drought in northern Santa Clara County and abnormally dry conditions through the rest of the county in spring 2020. Drought conditions increase the need for irrigation, pathogen and weed management at newly planted native habitat restoration sites, thus increasing the cost and labor requirements for site maintenance.

Figure D2.1 - Summarizes the amount of invasive and non-native vegetation removed and maintained by Valley Water, and its D2 partners each fiscal year. Maintained acres are where initial invasive and non-native plant removals required follow-up controls to be effective.

Figure D2.1 - Summarizes the amount of invasive and non-native vegetation removal by D2 and its partners each fiscal year. Colors show the locations with acres noted for each place in the legend.

*The amount of acres in FY19 has been corrected.

Project D3

Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

This project provides grants and partnerships for activities such as developing Stream Corridor Priority Plans; creating or enhancing wetland, riparian and tidal marsh habitat; protecting special status species; removing fish migration barriers; installing fish ladders; removing non-native, invasive plant species; and planting native species. The project includes 7 grant cycles, 1 held approximately every other year during the 15-year duration of the Safe, Clean Water Program, as well as funding for partnerships that restore stream and wetland habitat and provide open space access. This project also funds work that provides access to creekside trails or trails that provide a significant link to the creekside trail network, for example, the possible construction of a bridge over Coyote Creek in the Rock Springs neighborhood.

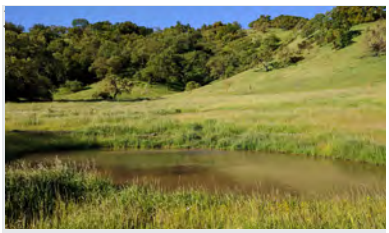
Benefits

- Enhances creek and bay ecosystems
- Improves fish passage and habitat
- Expands trail and open space access
- Leverages community funding through grants
- Increases collaborations and partnerships for stewardship activities with cities, the County, nonprofit organizations, schools and other stakeholders

Key Performance Indicators (15-year Program)

1. Develop 5 Stream Corridor Priority Plans to prioritize stream restoration activities.
2. Provide 7 grant cycles and additional partnerships for $21 million that follow pre-established criteria related to the creation or restoration of wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife, and providing new public access to trails.

Geographic Area of Benefit: Countywide



South Valley meadow restoration.

ON TARGET

Project D3 FY20 Highlights

- Completed a final draft of the Coyote Creek Native Ecosystem Enhancement Tool (CCNEET).
- The Board approved a revised Grant Allocation Matrix for D3: Restore Wildlife Habitat grants.
- The Board awarded a total of $580,531 for two (2) grant projects using the revised matrix.
- Awarded seven (7) mini-grants for a total of $34,725.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

- Stream Corridor Priority Plans identify habitat and trail enhancement opportunities of importance to Valley Water, to guide the development of D3 grant applications. The first Stream Corridor Priority Plan, for Stevens Creek, was finalized in FY2019. In FY20, Valley Water completed a final draft of the Coyote Creek Native Ecosystem Enhancement Tool (CCNEET). CCNEET is an online decision-support tool to identify and coordinate habitat enhancement actions to improve ecological conditions along Coyote Creek from Anderson Dam to Montague Expressway. This is a longer reach than was originally selected for Coyote Creek. Using funds from D3 and other sources, Valley Water identified habitat enhancement opportunities using existing spatial and ecological data, with input from a technical advisory committee of regional resources specialists. Results were refined by Valley Water, regional organization, and permitting agency stakeholders. The specific and detailed enhancement opportunities generated by CCNEET will function as a Stream Corridor Priority Plan for Coyote Creek.

Progress on KPI #2:

- On February 11, 2020, the Board approved a revised Grant Allocation Matrix for D3: Restore Wildlife Habitat grants and awarded a total of $580,531 for two (2) grant projects using the revised matrix. The two projects are:
    - Santa Clara Valley Open Space Authority – Pond Restoration Project for California Red-legged Frog and Western Pond Turtle in Rancho Canada del Oro Open Space Preserve ($476,796)
    - Grassroots Ecology – Re-Oaking Silicon Valley ($103,735)
- FY20 was not a grant cycle year for D3: Access to Trails and Open Space.
- In FY20, seven (7) mini-grants were awarded for a total of $34,725:
    - Bay Area Older Adults – Watershed and Wildlife Education Program ($5,000)
    - Children's Discovery Museum of San José – Project Transect Alamitos Creek ($5,000)
    - Guadalupe River Park Conservancy – Guadalupe Watershed Ecosystem Education Project ($4,725)

- Living Classroom – Campbell Union Elementary School District ($5,000)
- Youth Outside – 2020 Outdoor Educators Institute ($5,000)
- Bay Area Older Adults – Watershed Appreciation Program ($5,000)
- San José State University Research Foundation – Watershed Stewardship Awareness Educational Workshop Series ($5,000)

- From FY14-19, ten (10) Access to Trails and Open Space grants were awarded for a total of $1,563,135 and Valley Water continues to administer these projects. Of these, three (3) projects have been completed, closed, or cancelled.
- From FY14-19, 26 Wildlife Restoration grants were awarded for a total of $4,720,022. Of these, 15 projects have been completed, closed or cancelled. Valley Water continues to administer the remaining 11 projects.
- From FY14-19, three (3) Wildlife Restoration partnerships were awarded for a total of $764,450. One (1) has been completed.
- From FY14-19, 28 mini-grants were awarded for a total of $134,207. Of these, 22 projects have been completed, closed or cancelled.
- See Appendix C for a cumulative list of grants and partnerships awarded to date.

Financial Information

In FY20, 44% of the annual budget was expended.

The under-expenditure was due to not awarding all of the funds allocated for grant projects and the delays in executing grant agreements. Due to CEQA compliance requirements and impacts of the COVID-19 public health orders, Valley Water staff and grantees experienced delays in executing agreements for projects that were awarded funding. The grant funds that were budgeted for FY20 will be adjusted into FY21 to align with the agreements that need to be executed, per Board approval.

Financial Summary ($ Thousands)
D3. Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,896	($896)	$1,000	$328	$113	$441	44%	$24,092	32%

Opportunities and Challenges

Stream Corridor Priority Plans

In FY18, five (5) watershed creek reaches were selected for the development of the plans. The creek reaches selected are as follows:

1. Lower Peninsula Watershed - Stevens Creek;
2. Coyote Watershed - Coyote Creek (candidate reach is approx. Montague to Coyote Narrows);
3. Guadalupe Watershed - Guadalupe River;
4. Pajaro Watershed - Uvas Creek (downstream of Uvas Reservoir); and
5. West Valley Watershed - Saratoga Creek.

These creeks were selected based on various factors including habitat potential and quality and demonstrated public and volunteer interest. The list of selected creek reaches is subject to change as appropriate.

Revised Grant Allocation Matrix for D3: Restore Wildlife Habitat

On February 11, 2020, the Valley Water Board approved modifications to the D3: Restore Wildlife Habitat Grant Allocation Matrix, which is used by the grants evaluation committee in the grant application review and recommendation. The evaluation criteria was revised to align with the eligibility criteria that an eligible project only needs to provide one of the benefits under D3: Restore Wildlife Habitat. The Grant Allocation Matrix was revised to shift the point range for Tier 1 and Tier 2 funding to reflect the amount of points a project may receive by meeting one of the D3 benefits.

Revised D3: Restore Wildlife Habitat Grant Allocation Matrix:

- Tier 1: Proposals with an average score between 140-200 points will receive between 70-100% of the requested funding.
- Tier 2: Proposals with an average score between 110-139 points will receive between 30-69% of the requested funding.

Safe, Clean Water Grants Program Improvements

During the FY19 Annual Report review, the Independent Monitoring Committee (IMC) recommended evaluating the effectiveness and efficiency of the administration of the Safe, Clean Water Grants Program for Projects A2, B3, B7, D3 and Clean, Safe Creeks grants. Valley Water staff continues to identify areas to streamline the grant administration and grant application processes, especially after multiple staffing transitions and the continued build out of the online grants management system, Fluxx. The Board Audit Committee approved a desk audit of the grants program by an external auditor in FY20. The outcome of the desk audit was the recommendation for a subsequent performance audit for the grants program. Staff will work with the external auditor to identify streamlining opportunities and collect the IMC's requested metrics and will present the performance audit results to the IMC upon completion.

COVID-19 Impacts to Safe, Clean Water Grants Program

In March 2019, the Santa Clara County Public Health Officer issued countywide guidance to slow the spread of coronavirus in our community. The countywide guidance included a shelter-in-place order and other restrictions, which impacted many grant projects especially those interfacing with the public and involving work outdoors. Valley Water staff continues to support grantees in navigating project implementation during the pandemic. Grantees are finding creative ways to continue their project activities in alignment with the public health guidance. However, staff has received several time extension requests, schedule adjustment inquiries and delays to agreement executions due to the impacts of COVID-19 on grantees. Staff will continue to monitor these projects and work with grantees to address these unforeseen changes.

Mini-Grants Program and Renewal

On October 9, 2018, the Board approved the renewal of the Mini-Grants program, allocating $200,000 each year, with each mini-grant not to exceed $5,000. The program is designed to provide seed funding to encourage broader and long-term community engagement in wildlife habitat restoration and watershed stewardship activities in Santa Clara County. The mini-grant program is not designed to cover all expenses associated with an activity, but rather a portion to kick start stewardship activities. Eligible activities include tangible educational activities and small-scale physical improvements.

Project D4

Fish Habitat and Passage Improvement

This project helps restore and maintain healthy steelhead trout populations by improving fish passage and habitat. Possible work sites include Alamitos Creek at Lake Almaden and Ogier Ponds in the Coyote watershed, where man-made creek alterations disrupt fish migration. The project also includes studies of steelhead streams throughout the county to determine where improvements are needed to support spawning, rearing and migration. Funding also pays for the development of a program to use large woody debris to create fish habitat.

Benefits

- Improves spawning and rearing habitat within the Coyote, Guadalupe and other watersheds
- Improves steelhead trout habitat
- Helps provide required mitigation for environmental impacts of reservoir and recharge operations and for countywide Stream Maintenance Program

Key Performance Indicators (15-year Program)

1. Complete planning and design for 2 creek/lake separations.
2. Construct 1 creek/lake separation project in partnership with local agencies.
3. Use $6 million for fish passage improvements.
4. Conduct study of all major steelhead streams in the county to identify priority locations for installation of large woody debris and gravel as appropriate.
5. Install large woody debris and/or gravel at a minimum of 5 sites (1 per each of 5 major watersheds).

Geographic Area of Benefit: Countywide

Large woody debris at Los Gatos Creek (post-construction).

ADJUSTED

Project D4 FY20 Highlights

Creek/Lake Separation:

- Released the Draft EIR for public review.
- Completed 30% design plans for Almaden Lake and routed for review to Valley Water and City of San José staff.
- Valley Water met with County Parks multiple times to discuss the scope of work for the Ogier Ponds planning study.
- Valley Water conducting final review of the MOA for Ogier Ponds.

Fish Passage Improvements:

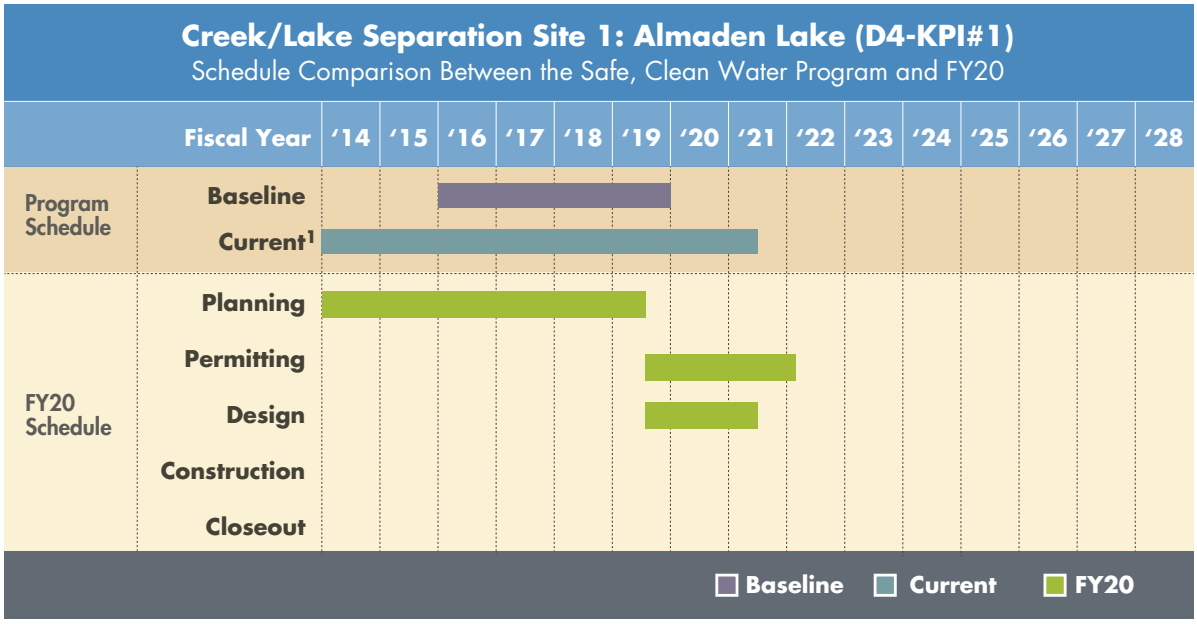
- Bolsa Road Fish Passage Project to be re-advertised for construction in FY21.
- For the Singleton Road Fish Passage Project, worked with the City of San José and various environmental resource agencies to complete the interim project design and streamline permit applications.

Fish Habitat Improvements:

- The second phase of the large woody debris and gravel augmentation study underway.
- Completed the Los Gatos Creek gravel augmentation/large woody debris placement project.

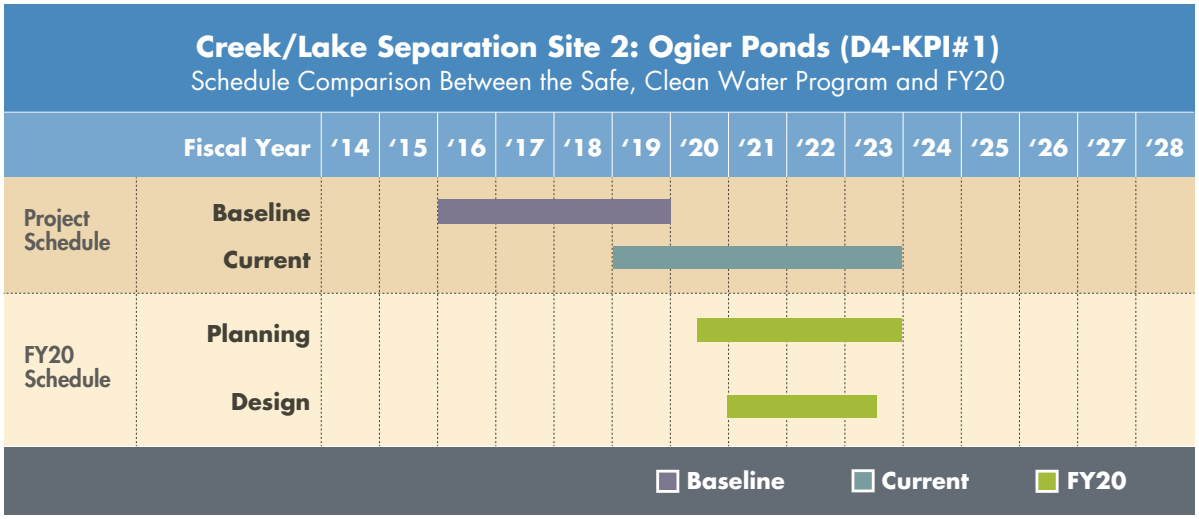
Schedule

Site 1: Almaden Lake



[1] Board approved a schedule adjustment through the change control process in FY19 & FY20.

Site 2: Ogier Ponds



Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

View of the existing Almaden Lake Park, looking north at Coleman Road bridge, along approximate proposed new levee location.

Creek/Lake Separation Site 1: Almaden Lake

From June to December 2019, Valley Water completed preparation of the Draft Environmental Impact Report (DEIR). In December 2019, Valley Water released the DEIR for public review. In January 2020, Valley Water held both public and resource agency meetings to engage key stakeholders, discuss the DEIR results and project plan, and solicit comments. Valley Water received a large number of comments from individuals, resource agencies, and non-governmental organizations. The Final EIR is anticipated to be brought to the Board of Directors for certification in FY21. Additionally, in FY20 Valley Water staff completed the 30% design plans and routed it the design plans for internal and City of San José review and comment. Valley Water also released a request for proposal to procure a landscape architect to prepare the 60% to 100% landscape plans and specifications.

Creek/Lake Separation Site 2: Ogier Ponds

Valley Water met with County Parks multiple times between November 2019 and May 2020 to discuss the scope of work for the Ogier Ponds Planning Study. The project team is targeting County approval of the Memorandum of Agreement (MOA) in August 2020. Following MOA approval, the planning study is expected to start.

Progress on KPI #2:

The Ogier Ponds Project is on hold pending a signed MOA with the County. The planning phase will begin upon MOA approval. The Almaden Lake project is in the design phase. The Valley Water Board has not yet selected which project will receive construction funding from the Safe, Clean Water Program.

Progress on KPI #3:

Fish Passage Improvements

- In FY19, Valley Water fully developed design plans, conducted the CEQA analysis and applied for permits to implement the Bolsa Road Fish Passage Project. While the project maintains its fish passage benefits, as a result of consultations with in-house fisheries biologists and environmental planners as well as the regulatory permitting agencies, the project design was changed to include geomorphic design features that will restore stability and stream function. In response, the Board approved funding construction through Project D6 Creek Restoration and Stabilization.
- The project consists of installation of a gradually sloped riffle-pool system along approximately 1,700 linear feet of Uvas-Carnadero Creek to restore the stream invert due to decades of channel incision and base lowering, and to steadily elevate the stream over existing fish passage barriers including a Union Pacific Railroad (UPRR) crossing support slab and a dysfunctional Denil fish ladder that was previously installed to bypass the UPRR crossing. This stream channel restoration approach to improve the fish passage also avoids retrofitting the existing slab associated with the Union Pacific Railroad (UPRR) bridge; i.e. no excavation near the bridge foundations. The project was advertised for construction bids in February 2020 but due to the impacts of COVID-19 pandemic, work was postponed until FY21. In fall 2020, staff will return to the Board, seeking authorization to re-advertise for bids for project construction in spring 2021. For more information about the project, see Project D6: Creek Restoration and Stabilization.
- Valley Water continues to coordinate with the City of San José on the Singleton Road Fish Passage Project on Coyote Creek. The city continues preparation of the design and CEQA documents for its bridge project and is seeking funding for design completion and construction. Valley Water continues to be prepared to support the fish passage barrier removal and natural stream restoration portion of the city's project by up to $1 million. Valley Water and the city are preparing a fish passage project (but interim transportation project) at the site based on a design prepared by Valley Water in FY19 that will result in removal of a fish passage barrier and construction of a flat car bridge in advance of the city's long-term solution. Valley Water is providing engineering design services to prepare engineering plans, specifications, and estimates, and environmental planning resources to coordinate permits and CEQA for the City of San José. Valley Water and the city are preparing a funding transfer agreement and construction is anticipated in summer of 2021.

Progress on KPI #4:

Fish Habitat Improvements

The second phase of the study to identify priority locations for gravel augmentation and large woody debris placement is well underway and estimated to be completed in FY21. The consultant is developing recommended high-priority locations for future large woody debris and gravel augmentation (LWDGA) projects using selection criteria based on biological, geomorphic and flood risk consideration as well as site visits, for recommended locations covering Llagas, Pacheco, Los Trancos, San Francisquito, and Calero Creeks and Pajaro River.

Progress on KPI #5:

Fish Habitat Improvements

In August 2019, Valley Water completed the construction of the Los Gatos Creek Large Woody Debris Placement and Gravel Augmentation Project, located just downstream of Highway 17, in the City of Campbell. The project is among the priority locations recommended in Phase 1 of the LWDGA study. At the June 23, 2020, meeting, the Board approved recommended amendment to the existing consultant agreement with AECOM for the second phase study of LWDGA to provide additional funding for AECOM to provide design and construction support for the implementation of LWDGA projects along Uvas Creek and other fish habitat improvement projects. Upon issuance of the notice to proceed AECOM will proceed with the design work for the projects along Uvas Creek with the goal of implementation next summer subject to timely permitting approval as well as availability of internal construction crews.

Financial Information

In FY20, 44% of the annual project budget was expended.

The Almaden Lake Improvements Project (KPI #1) expended 79% of its annual budget. The COVID-19 pandemic delayed the start of a geotechnical investigation needed to complete the 60% designs.

The Ogier Ponds Planning Study (KPI #1) has expended 0% of its annual budget, as the Memorandum of Agreement with the County is yet to be completed. In FY18, the Board approved a budget adjustment to complete the study.

The Construct one (1) Creek/Lake Separation project (KPI #2) has no expenditure in FY20 because none of the projects have completed CEQA evaluation and design for the Board to decide which project will receive construction funding from the Safe, Clean Water Program.

The Fish Passage Improvements project (KPI #3) is under expended at 23% of its annual budget. The under expenditure was due to delay in starting construction of the Bolsa Road Fish Passage Project resulting from a change in design. Project construction is expected to begin in summer of 2021 and completed in FY22.

The Fish Habitat Improvement project (KPIs 4 and 5) expended 110% of its annual budget. The construction cost of the Los Gatos Gravel Augmentation and Large Woody Debris project exceeded estimates due to some unanticipated difficulties including: a) flooding of the site due to unplanned releases after a pump failure; and b) needing to modify the anchoring method for the large woody debris due to challenging soil conditions.

Financial Summary ($ Thousands)
D4. Fish Habitat and Passage Improvements

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26044002 Fish Passage Improvement	$1,048	$1,465	$2,513	$562	$21	$583	23%	$8,770	39%
26042002 Fish Habitat Improvement	$569	$0	$569	$624	$0	$624	110%	$5,828	43%
26044001 Almaden Lake Capital Project	$1,153	$640	$1,793	$1,112	$306	$1,418	79%	$31,314	16%
26044003 Ogier Ponds Planning Study	$598	$497	$1,095	$0	$0	$0	0%	$4,253	8%
Total	**$3,368**	**$2,602**	**$5,970**	**$2,298**	**$327**	**$2,626**	**44%**	**$50,165**	**23%**

Opportunities and Challenges

Schedule Adjustments

Site 1: Almaden Lake

In FY20, the Board approved a schedule adjustment for this project, extending the planning and design completion by a year to FY21. Preparation of the Draft Environmental Impact Report (DIER) and design had been on track until the advent of COVID-19. The pandemic is hindering completion of the geotechnical investigation, which is required work to complete the design plans. Consequently, the design schedule has been delayed by a year and is now estimated to be completed in early FY21. Delays in design plans could subsequently delay future tasks, such as permit acquisition. Depending upon how long the pandemic and its impacts will last, the project schedule may require another adjustment.

Site 2: Ogier Ponds

In October 2019, a new project manager was assigned to the project to be able to focus on the scheduled milestones. This followed a March 23, 2019, Board decision to approve the Ogier Ponds schedule with planning and design to be completed in FY23. This completion date is contingent on execution of a Memorandum of Agreement with the landowner, Santa Clara County Parks. The Board recommended moving the project into planning provided the landowner, Santa Clara County Parks, agreed to continue the partnership into the next phase of planning. During FY19, Valley Water continued working with County staff on such an agreement. Once the agreement is executed, the planning and design work will commence.

Resource Needs

Fish barrier mitigation and creek/lake separation projects will continue to require a high amount of resources to maintain the level of stakeholder engagement necessary for project success.

Fish Habitat Improvements

The placement of any additional gravel or large woody debris (LWD) structures has the potential to increase water surface elevation in a stream. One of the challenges for considering gravel and LWD additions for habitat improvements is that for channel reaches in a Federal Emergency Management Agency (FEMA)-designated regulatory floodway, any changes to the channel configuration must not increase the water surface elevation beyond existing condition, irrespective of the proximity to structures or bank elevations. This restriction may make the design and construction of habitat enhancement more difficult, requiring the production of a "No Rise" certification. This certification is often costlier as it will require more detailed hydraulic evaluation and may also require more earthwork to meet the "No Rise" certification standards.

Stevens Creek:

In October 2019, a new project manager was assigned to the project to be able to focus on the scheduled milestones. Stevens Creek provides habitat for the federally threatened steelhead trout. In FY18, Valley Water began a study to evaluate 32 potential fish passage barriers along 12.8 miles of Stevens Creek downstream of Stevens Creek Reservoir. The study, expected to be completed in fall of 2020, will rank the degree to which these potential barriers impede steelhead in the creek. Although not funded by the Safe, Clean Water Program, the study could inform future fish passage improvement project/s selected and funded by the Safe, Clean Water Program in D4 and grant funding opportunities as part of D3.

Confidence Levels

Site 1: Almaden Lake

Schedule: Moderate confidence

While Valley Water is on track to complete the DEIR in FY21, there may be delays to completing design in FY21 due to impacts from the COVID-19 pandemic. The COVID-19 pandemic is causing delays to complete the necessary geotechnical investigations that are required to complete the project design. This will impact the project schedule. As well, the project continues to experience a high level of stakeholder engagement, which continues to potentially impact the project schedule.

Funding: High confidence

The Safe, Clean Water funding covers the cost of the planning and design phases.

Permits: N/A

The confidence level for permits will be determined if the Board selects the project to move forward with construction.

Jurisdictional Complexity: High confidence

Coordination with the City of San José is ongoing. This project is located on City of San José and Valley Water property and these entities have a longstanding partnership for the operation and maintenance of Almaden Lake and Almaden Lake Park.

Site 2: Ogier Ponds

Schedule: Moderate confidence

Valley Water does not own the property and cannot proceed with the planning phase until an MOA with County Parks is signed. The planning study area will be affected by the Anderson Dam project which is expected to convey higher than typical creek flows and deliver higher than typical sediment during the multi-year dam reconstruction. This will significantly complicate the planning and design phases for the Ogier Ponds Project and may delay approval of the MOA.

Funding: High confidence

The Safe, Clean Water funding covers the cost of the planning and design phases.

Permits: N/A

The confidence level for permits will be determined if the project moves past the planning phase.

Jurisdictional Complexity: Moderate confidence

The project includes a high level of regulatory engagement as there are numerous listed species at the site; however, the primary objective is stream restoration, which is expected to reduce regulatory challenges. The project is dependent on an MOA with County Parks, which has yet to be signed. Valley Water is targeting County's MOA approval in August 2020.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project D5

Ecological Data Collection and Analysis

This project creates a comprehensive watershed database that tracks stream ecosystem conditions to help Valley Water, other County agencies and organizations make informed watershed and asset management decisions. This new information integrates and enhances Valley Water's stewardship actions through a standardized, repeatable and defensible approach that guides, organizes and integrates information on stream conditions.

This ecological monitoring and assessment is conducted on an ongoing basis and is shared with land use agencies, environmental resource groups, and the public to support efficient restoration decisions throughout the county.

Valley Water biologists at Coyote Creek.

ON TARGET

Project D5 FY20 Highlights

- Evaluated 325 field assessments from all five watersheds in a comprehensive report.
- Coyote Creek watershed reassessment to begin with consultant contracts secured and 80 field sites selected. Field work to begin in July 2021.

Benefits

- Improves watershed and asset management decisions
- Provides a systematic, scientific guide for decisions and actions to improve stream conditions
- Supports effective design options for capital projects
- Maximizes the impact of restoration dollars with more reliable data on countywide stream conditions

Key Performance Indicators (15-year Program)

1. Establish new or track existing ecological levels of service for streams in 5 watersheds.
2. Reassess streams in 5 watersheds to determine if ecological levels of service are maintained or improved.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

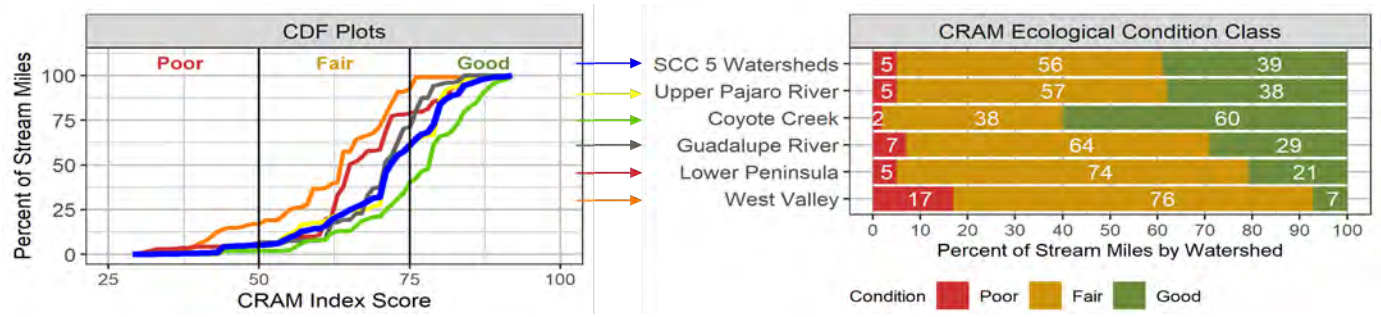
Status for FY20: ON TARGET

Progress on KPI #1: *(Completed in FY18)*

From 2010 to 2018, baseline ecological conditions were measured across all five county watersheds using the federally and state accepted California Rapid Assessment Method (CRAM). In FY20, Valley Water and the San Francisco Estuary Institute evaluated the 325 field assessments from all five watersheds from 2010 to 2018 in a comprehensive report (**www.valleywater.org/sites/default/files/Synthesis%20Report%20Final%20v2020_04_22_submitted_StandardQ.pdf**). The synthesis report presents the distribution, abundance and diversity of aquatic resources, and stream conditions in the five watersheds. Stream conditions are compared between watersheds, countywide, San Francisco Bay Delta regionwide and statewide. The baseline and synthesis reports as well as ecological condition assessment reports and data from other parts of the state, can be found at: **https://www.valleywater.org/project-updates/d5-ecological-data-collection-and-analysis**.

The report concluded that the five watersheds are generally in fair condition, although Coyote Creek is in good condition, and all are slightly better than the San Francisco Bay Delta region overall. Statewide stream conditions are good due to the large size and diversity of California to the Sierra Nevada, coast ranges and wide spans of natural land. Figure D5.1 shows the CRAM measures of ecological condition for each of the five watersheds combined (SCC 5), the Bay-Delta Region and statewide. Index scores represent overall condition based on CRAM, with its component attribute scores detailing conditions of stream features. The analyses and CRAM scores can be used to guide resource management actions. For example, stream reaches that are in good ecological condition might be preserved, poor condition reaches restored, and fair condition reaches enhanced.

Figure D5.1 Ecological condition of the 5 Santa Clara County watersheds (SCC 5) combined compared to the San Francisco Bay Delta region and Statewide.



Progress on KPI #2:

The first reassessment of the Coyote Creek watershed is underway with field work planned during the summer of 2020 (FY21), exactly 10 years after its first assessment. Contracts are in place, field sites statistically selected and requests for permission to enter private properties have been sent.

Financial Information

In FY20, 38% of the annual project budget was expended.

The project does not have consistent spending year to year, but cycles between high and low years depending on when watersheds are assessed.

Financial Summary ($ Thousands) D5. Ecological Data Collection and Analysis								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$964	$0	$964	$319	$43	$362	38%	$9,020	30%

Opportunities and Challenges

Watershed Approach to Environmental Permitting, Impact Assessments and Mitigation

The Project D5 assessments align closely with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), which became effective on May 28, 2020 to regulate work in streams and their wetlands under Section 401 of the Clean Water Act, and Porter-Cologne Water Quality Control Act. The Procedures ensure that mitigation planning is based on a watershed approach. Information and analysis of the abundance, distribution, diversity and condition of aquatic resources is required, and CRAM is considered an appropriate assessment method to provide some of these required data. Therefore, and as previously reported, Project D5 is consistent with the State Water Resources Control Board requirements.

Furthermore, Valley Water implements the D5 project in accordance with the Wetland and Riparian Area Monitoring Plan (WRAMP) framework recommended by the United States Environmental Protection Agency and endorsed by the California Water Quality Monitoring Council. The project results are entered on EcoAtlas, which allows the public to view the proportion of stream resources in good, fair, or poor condition using the Landscape Profile tool (https://www.ecoatlas.org).

Partnerships, Resource Agency, Conservation Group, and Landowner Coordination

Valley Water needs the assistance of and to work cooperatively with landowners and land managers, resource agencies, environmental organizations, stakeholders, and citizen groups to maintain and improve ecological conditions, and watershed health. Valley Water does not own or have easement on most of the streams in the county and its land is primarily in the valley, adjacent to and downstream of the reservoirs.

Project D6

Creek Restoration and Stabilization

This project will use geomorphic data to design and construct projects to increase the stability of eroding creek banks and help restore the natural functions of stream channels. Possible work may include the removal of Comer Debris Basin on Calabazas Creek in Saratoga, and activities to reduce and prevent incision and promote sediment balance in Stevens and Uvas creeks.

Benefits

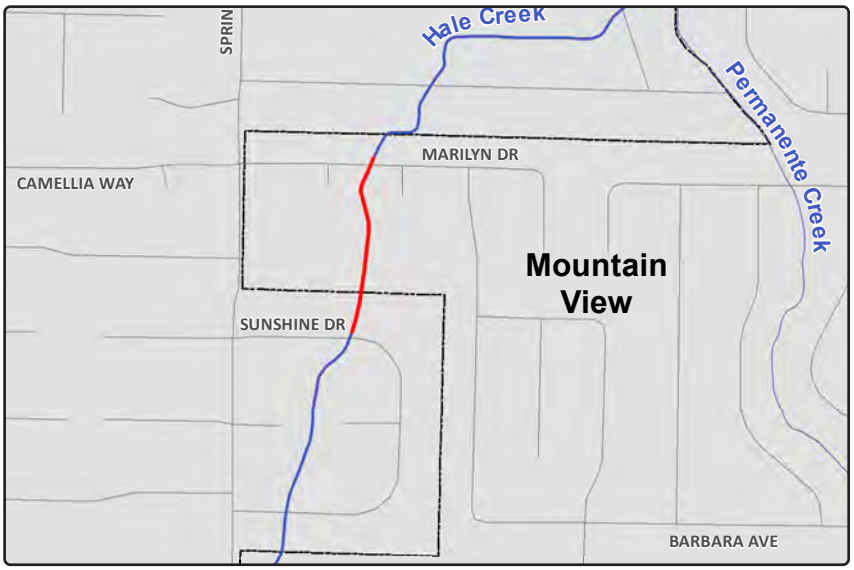
- Uses scientific principles to restore sediment balance and reduce erosion, instability and sedimentation in creeks
- Helps restore stream functions and improves recharge capacity of channels by decreasing sedimentation
- Protects roads from damage caused by eroding channel banks
- Reduces annual maintenance cost for sediment removal

Key Performance Indicator (15-year Program)

1. Construct 3 geomorphic designed projects to restore stability and stream function by preventing incision and promoting sediment balance throughout the watershed.

Geographic Area of Benefit: Countywide

Project Location



Legend

- Hale Creek Project Location
- Santa Clara County Cities

Rendering of the Hale Creek pilot project's natural channel design.

ADJUSTED

Project D6 FY20 Highlight

Site 1: Hale Creek Enhancement Pilot Project

- Continued work on finalizing the 90% plans and specifications as part of the design process.
- Obtained Nationwide Permit from the U.S. Army Corps of Engineers.

Site 2: Bolsa Road Fish Passage Project

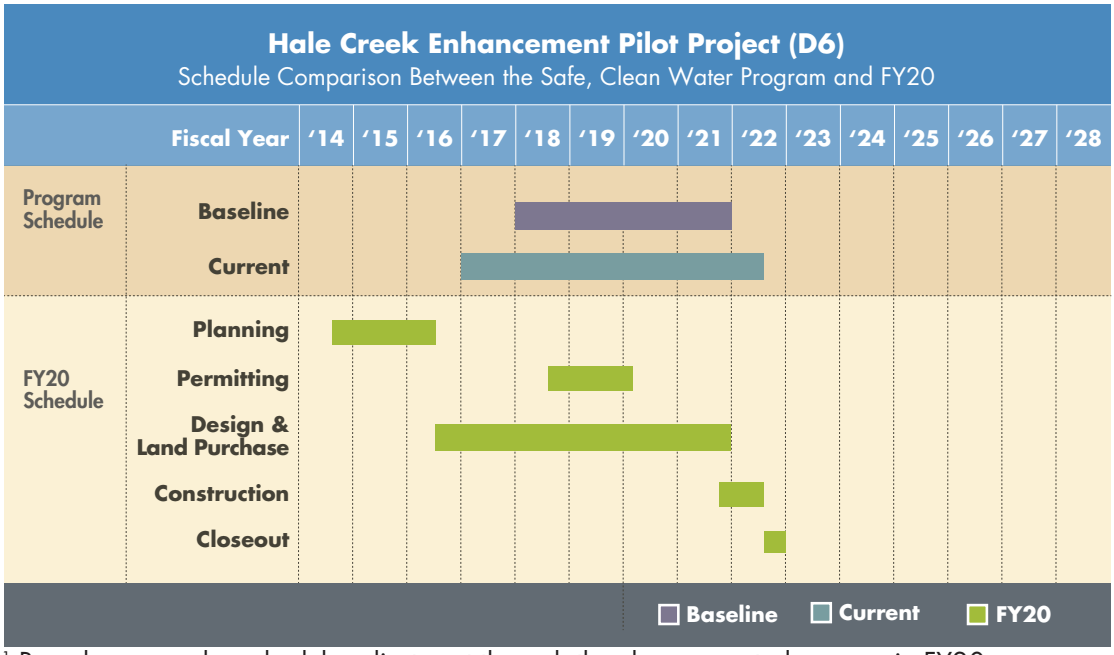
- California Department of Fish and Wildlife issued the final Streambed Alteration Agreement.
- Project to be re-advertised for construction in FY21.

Site 3: Los Gatos Creek Restoration Project

- Project delisted from the Capital Improvement Program and no longer considered as a project under the Safe, Clean Water Project D6.

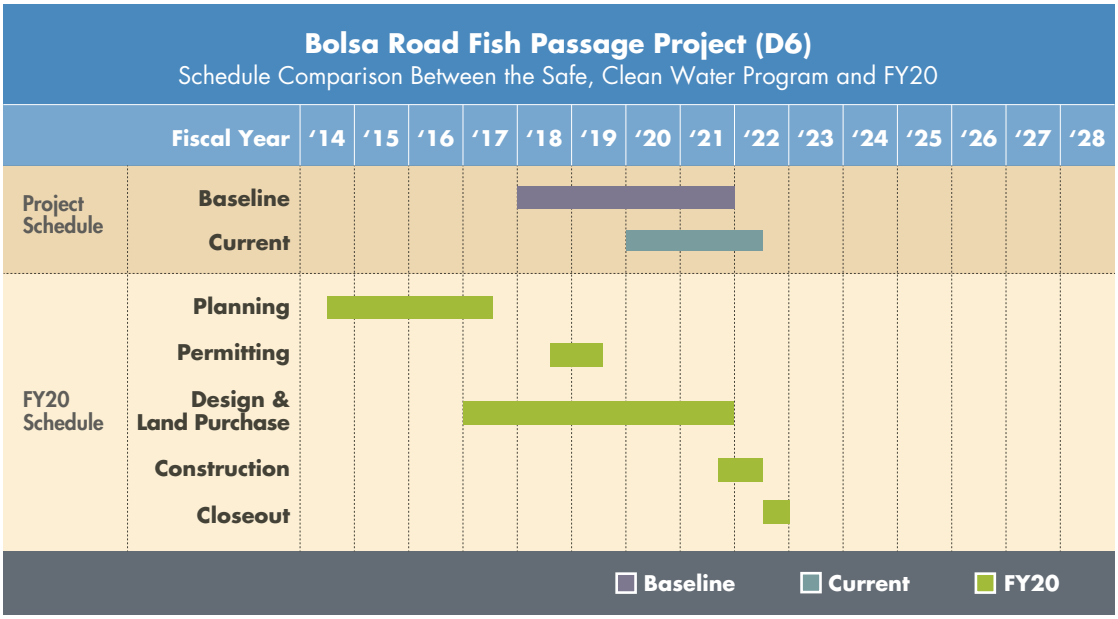
Schedule

Site 1: Hale Creek Enhancement Pilot Project



[1] Board approved a schedule adjustment through the change control process in FY20.

Site 2: Bolsa Road Fish Passage Project



[1] Board approved a schedule adjustment through the change control process in FY20.

Status History

Fiscal Year	Status
FY 14	SCHEDULED TO START
FY 15	SCHEDULED TO START
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- In FY16, Valley Water selected the Hale Creek Enhancement Pilot Project as the first of three (3) geomorphic designed projects to be constructed.
- In FY19, Valley Water selected the Bolsa Road fish passage project on Uvas Creek.
- In FY20, Los Gatos Creek Restoration project in downtown San José was removed as the possible third project under Safe, Clean Water Project D6. This decision followed the determination that the project being proposed could not meet the Project D6 KPI requirements.

Site 1: Hale Creek Enhancement Pilot Project

- The first of the geomorphic designed projects is the Hale Creek Enhancement Pilot Project, which includes restoration and stabilization of a 650-foot section of concrete-lined channel on Hale Creek, between Marilyn Drive and North Sunshine Drive on the border of Mountain View and Los Altos. In coordination with the San Francisco Bay Regional Water Quality Control Board (RWQCB), this project has been prioritized and selected for a pilot study to restore geomorphic creek features in a confined urbanized setting. In FY20, Valley Water continued working on the 90% plans and specifications as part of the design process by implementing design changes to minimize impacts to adjacent residents. The design documents are expected to be completed by the end of 2020. For detailed information about the geomorphology and project design, view the Hale Creek Enhancement Pilot Project planning study memo online: https://www.valleywater.org/sites/default/files/Hale_Creek_Planning_Memo_022516LN-.pdf
- On November 21, 2019, the U.S. Army Corps of Engineers issued a Nationwide Permit for the project. On February 11, 2020, the California Department of Fish and Wildlife (CDFW) issue a Draft Streambed Alteration Agreement (SAA) for the project and on March 19, 2020, Valley Water submitted comments on the Draft SAA to CDFW. Valley Water staff is responding to RWQCB's comments on the permit application.

Site 2: Bolsa Road Fish Passage Project

- This project was originally planned and designed as one of the fish passage improvement projects under Project D4. While the project maintains its fish passage benefits, as a result of consultations with in-house fisheries

biologists and environmental planners as well as the regulatory permitting agencies, the project design was changed to include geomorphic design features that will restore stability and stream function. In response, the Board approved funding construction through Project D6 Creek Restoration and Stabilization.

- The Bolsa Road Fish Passage Project consists of the installation of a gradually sloped riffle-pool stream complex along approximately 1,700 linear feet of Uvas-Carnadero Creek in unincorporated Santa Clara County, just south of Gilroy. The purpose of the project is to restore the stream invert due to decades of channel incision and base lowering and to steadily elevate the stream over existing fish passage barriers including a Union Pacific Railroad (UPRR) crossing support slab as well as a dysfunctional Denil fish ladder that was previously installed to bypass the UPRR crossing. In FY19, the Valley Water began working on the design process and completed 100% plans and specifications. For detailed information about the geomorphology and project design, view the Bolsa Road Fish Passage Improvement Project Basis of Design report online: https://fta.valleywater.org/dl/l5mWtD1dUI/
- San Francisco Bay Regional Water Quality Control Board (RWQCB) issued a Water Quality certification on April 26, 2019, California Department of Fish and Wildlife (CDFW) issued the final Streambed Alteration Agreement on January 23, 2020, and U.S. Army Corp of Engineers (USACE) issued a permit on June 6, 2019.
- The project was advertised for construction in the last quarter of FY19, but all three (3) submitted bids were rejected at the June 25, 2019, Board meeting. Two of the three bids received were non-responsive and the only responsive bid was more than double the engineer's estimate. In fall 2019, the Board authorized re-advertising the project for construction. However, in April 2020, in response to the COVID-19 pandemic impacts, advertising and award of the construction contract was halted. The project will be re-advertised for construction in 2021.

Site 3: Los Gatos Creek Restoration Project

- In FY19, Los Gatos Creek Restoration Project was identified as a possible candidate for this Safe, Clean Water Priority. A preliminary feasibility outlook showed that considerable involvement with local landowners was necessary to move this project forward and the Board approved the proposed project schedule of Planning to begin in FY20 and construction to be completed in FY23.
- However, after almost a year of joint analysis and discussion, it became evident that the preferred development proposal by the landowner could not meet the KPI requirements of restoration or bank stabilization. In addition, the timeline for the land development was in constant flux, giving uncertainty to the project timeline, effectively holding the D6 funds with no firm deadline for project completion. Therefore, in FY20, the project was removed from the program. Less than $500 of Safe, Clean Water funds had been used on this project and staff will now look for another suitable site for this project.

Financial Information

Site 1: Hale Creek Enhancement Pilot Project

In FY20, 24% of the annual project budget was expended.

The under expenditure was because the FY20 project budget was for construction, which is now scheduled for summer of 2021.

Financial Summary ($ Thousands) D6. Hale Creek Enhancement Pilot Project								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$21	$3,543	$3,565	$840	$6	$846	24%	$8,993	24%

Site 2: Bolsa Road Fish Passage Project

Since the planning and design for this project was carried out under D4 Fish Habitat and Passage Improvement, the FY20 budget allocation for construction continued to be included under Project D4, which was to be reimbursed in accordance with the Board's FY19 decision that the project construction be funded by D6. The project schedule was extended by a year in FY20 for construction to begin in spring of 2021.

Site 3: Los Gatos Creek Restoration Project

In FY20, $432 of the budgeted $226,241 were spent on this project prior to the decision to not pursue the project under the Safe, Clean Water Program.

Financial Summary ($ Thousands) D6. Los Gatos Creek Restoration Project								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$226	$0	$226	$0	$0	$0	0%	$9,802	0%

Opportunities and Challenges

Site 1: Hale Creek Enhancement Pilot Project

Schedule Adjustment

In FY20, the Board approved a schedule adjustment, extending the project completion by a year to FY22. The project construction was deferred due to several reasons listed below:

1. Allow time for coordination with property owners to obtain temporary construction easements;
2. Find solutions that would minimize or eliminate construction delays associated with PG&E coordination for de-energizing some electric lines that are too close to the project; and
3. Allow time to redesign some elements of the project to minimize construction impacts to adjacent residents.

Confidence Levels

Schedule: Moderate confidence

This section of Hale Creek is bordered by seven (7) private residential properties and a church parking lot. The ability to resolve potential mis-aligned fences and obtain the necessary temporary easements for construction will be critical for project success. Valley Water conducted outreach to the project neighbors and continues to work with them closely to obtain temporary construction easements

Funding: High confidence

Project funding has been secured through the Safe, Clean Water Program.

Permits: High confidence

Since Valley Water is coordinating with the RWQCB on this project, permit acquisition is expected to be a smooth process for this stream restoration project.

Jurisdictional Complexity: Moderate confidence

This project is on the border of Mountain View and Los Altos, and both cities have been supportive of the project. During the design phase, Valley Water has coordinated with both cities on an as needed basis, but as the project transitions into the construction phase, Valley Water will collaborate more closely with both cities.

The work is being done on existing Valley Water right-of-way and easements and additional temporary construction easements will be required to build the project from adjacent property owners. Furthermore, PG&E overhead electric lines cross and run along the creek in several locations. Valley Water continues to coordinate with PG&E and revise the design as necessary to ensure this project can be constructed while minimizing impacts to utility services to adjacent residents.

Site 2: Bolsa Road Fish Passage Project

Schedule Adjustment

In FY20, the Board approved a schedule adjustment for this project, extending the completion of construction in FY22. Construction was to begin in FY20, but in response to the COVID-19 pandemic, the project construction was deferred by year. The project will be re-advertised for construction in the summer of 2021, with construction estimated to be completed in FY22.

Confidence Levels

Schedule: High confidence

All work items for the Bolsa Road Fish Passage project are within Valley Water's maintenance easement. Permission to Enter agreements with adjoining commercial properties were executed in May 2019 for the contractor to access the project site safely on the south bank to avoid the busy traffic along Bolsa Road. Valley Water has received cooperation from the adjoining project neighbors.

Funding: High confidence

Project funding through FY20 has been secured through the Safe, Clean Water Program.

Permits: High confidence

Valley Water has received permits from RWQCB and USACE. CDFW has issued the final Streambed Alteration Agreement for the project.

Jurisdictional Complexity: High confidence

Valley Water has received cooperation from the adjoining project neighbors and secured Permission to Enter for construction from project neighbors and it will be extended to the end of 2021 to cover postponement of the project construction to next season. This project footprint was modified slightly to avoid encroaching UPRR right-of-way as the UPRR disagreed with Valley Water evaluation of impact to drainage under the UPRR bridge.

Site 3: Los Gatos Creek Restoration Project

The project has been removed from the program.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project D7

Partnerships for the Conservation of Habitat Lands

Funding from this project helps the community acquire important habitat land to preserve local ecosystems. The project supports implementation of the Valley Habitat Plan, a multi-agency agreement that pools mitigation dollars to purchase large areas of habitat land for conservation.

Coyote ceanothus plant

COMPLETED

Project D7 FY20 Highlights

- Provided the $8 million to Valley Habitat Agency to fund acquisition of property contributing to the conservation goals and mitigation requirements for the endangered Coyote ceanothus.
- Completed the project.

Benefits

- Fulfills a portion of Valley Water's acre allocation to the Valley Habitat Plan
- Protects, enhances and restores natural resources in Santa Clara County
- Contributes to the recovery of special status species
- Coordinates regional mitigation projects to create larger, less fragmented conservation lands that are more beneficial for wildlife and the environment
- Provides for endangered species and wetlands mitigation for future water supply and flood protection projects

Key Performance Indicator (15-year Program)

1. Provide up to $8 million for the acquisition of property for the conservation of habitat lands.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: COMPLETED

Progress on KPI #1:

A Partnership Agreement with the Santa Clara Valley Habitat Agency (VHA) was fully executed in January 2019, which established criteria for the allocation of partnership funding for the conservation of habitat lands. The VHA evaluated Valley Habitat Plan conservation objectives and identified a high-priority land acquisition which met the established criteria. Acquisition of the property preserved a population of the endangered Coyote ceanothus, providing

necessary mitigation for impacts to this species resulting from the Anderson Dam Seismic Retrofit Project. In FY20 Valley Water provided $8 million to VHA to acquire the property, thus completing the project. The property will be enrolled into the VHA reserve system and managed in perpetuity to maintain its conservation values and preserve this endangered plant species.

Financial Information

In FY20, 100% of the annual project budget was expended.

Financial Summary ($ Thousands)
D7. Partnership for the Conservation of Habitat Lands

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,000	$6,000	$7,000	$7,002	$0	$7,002	100%	$10,524	76%

Opportunities and Challenges

Valley Habitat Plan

The Valley Habitat Plan provides 50-year permits, issued in July 2013, for incidental take of endangered species. The Valley Habitat Plan (VHP) is a Habitat Conservation Plan and Natural Communities Conservation Plan that provides landscape-scale mitigation for "take" of plant and wildlife species listed under the federal and state endangered species acts. Valley Water, Santa Clara County and the cities of San José, Gilroy and Morgan Hill participate in the Habitat Plan and pay fees to compensate for impacts to species resulting from permitted projects. These permittee agencies established the Valley Habitat Agency to implement the Habitat Plan under a Joint Powers Authority. Permit funds are used to acquire and manager preserve areas to meet the Habitat Plan's conservation strategies.

The Anderson Dam Seismic Retrofit Project (ADSRP) is a permitted project in the Valley Habitat Plan; that is, the Habitat Plan includes conservation objectives to compensate for projected impacts from ADSRP. The ADSRP impact area contains a population of Coyote ceanothus, a white-flowered shrub that is only found in three locations in Santa Clara County and is listed as Endangered under the Federal Endangered Species Act. As a result, the Habitat Permit requires that a new population of plants be created or protected through a direct purchase of land or through a conservation easement. The criteria for funding partnerships with the VHA are based on this and other elements in the Valley Habitat Plan.

Process development

The partnership agreement with VHA was fully executed January 2019. A copy of the agreement can be found on the Valley Water website for D7 located here: https://www.valleywater.org/project-updates/d7-partnerships-conservation-habitat-lands

Project D8

South Bay Salt Ponds Restoration Partnership

This project reuses local sediment from streams flowing into San Francisco Bay to create and rehabilitate habitat in the South Bay Salt Ponds Restoration. Valley Water reuses sediment that has to be removed from streams to maintain their capacity to carry floodwaters. In partnership with the U.S. Fish and Wildlife Service (FWS), clean sediment is applied to appropriate locations to improve the success of the South Bay Salt Ponds Restoration effort.

Sediment stockpile to Pond A8.

ON TARGET

Project D8 FY20 Highlights

- Added approximately 5,500 cubic yards of soil to the existing 10:1 slope at Pond A8 to protect the clay liner of the former landfill and support future 30:1 slope ecotone.

Benefits

- Accelerates progress of an important tidal wetland restoration project
- Reduces disposal costs for sediment that has been removed from local channels to maintain flood carrying capacity
- Increases space availability in local landfills

Key Performance Indicators (15-year Program)

1. Establish agreement with FWS to reuse sediment at locations to improve the success of Salt Pond restoration activities.
2. Construct site improvements up to $4 million to allow for transportation and placement of future sediment.

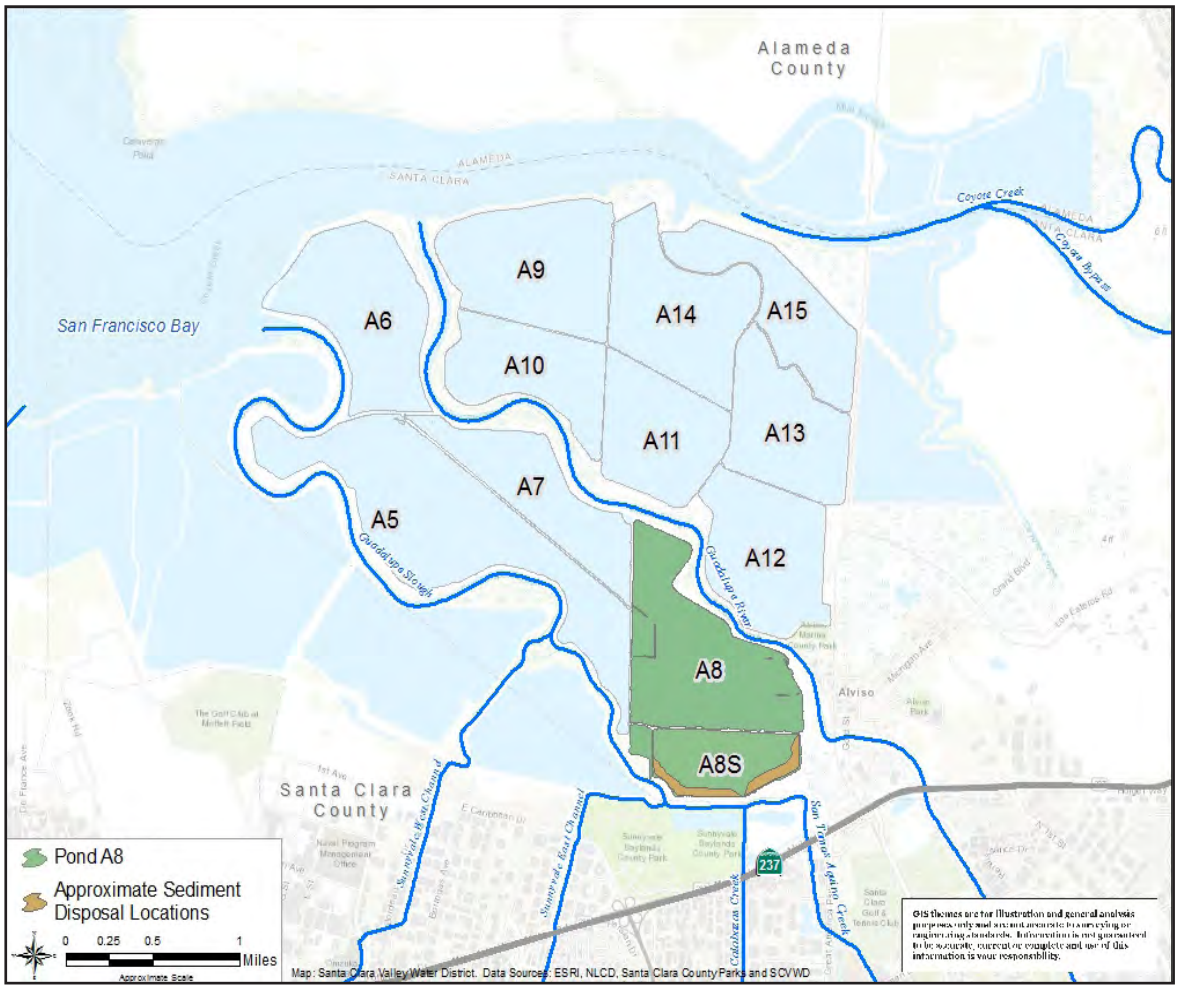
Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Project Location



Progress on KPI #1: *(Completed in FY14)*

In May 2019, Valley Water signed a new agreement with USFWS to replace the initial agreement that was signed in March 2014.

Progress on KPI #2:

During August of 2019, 5,500 cubic yards of soil from the Lower Berryessa Flood Protection Project was added to the existing 10:1 slope at Pond A8 to protect the clay liner of the former landfill as well as support future 30:1 slope ecotone, gentle slope that will be a good substrate for marsh vegetation to grow.

Financial Information

In FY20, 18% of the annual project was expended.

The underspending was primarily due to expenditures late in FY20 which will be attributed to FY21.

Financial Summary ($ Thousands) D8. South Bay Salt Ponds Restoration Partnership								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$0	$13	$13	$2	$0	$2	18%	$4,398	6%

Opportunities and Challenges

Coordination with Project E1.2: Sediment Removal for Capacity

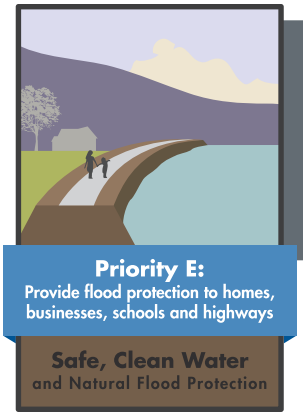
To the extent possible, Valley Water coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to USFWS-owned Pond A8 to provide suitable substrate (e.g. dirt, gravel, sand, etc.) on which marsh vegetation can grow.

Habitat Improvement

This project provides an important opportunity to assist the South Bay Salt Pond Restoration Program. The sediment is being used to construct a broad, gentle slope that will increase marshland acreage that absorbs energy during storm surges providing resilient flood protection and protects adjacent property, a former landfill from erosion, while providing habitat for many wetland species. After the slope is constructed, it will be revegetated with an appropriate array of native tidal marsh plant species and planting methods developed by the San Francisco Bay Bird Observatory with Valley Water funding.

Maximize Sediment Reuse

Because of the higher standards required to meet under the new Quality Assurance Project Plan (QAPP), Valley Water is unable to find enough soil that meets the thresholds as cover material. There is limited amount of soil that meets the foundation criteria and even less for cover and that limits our ability to deposit the soil at Pond A8. SBSPRP, USFWS and Valley Water staff are working with the Water Board to modify criteria for reuse material. Furthermore, Valley Water may also consider purchase of cover material.



Priority E

Provide Flood Protection to Homes, Businesses, Schools and Highways

Flood protection measures under Priority E include capital construction projects, studies of flood prone areas, maintenance of existing flood protection channels and improvements to emergency planning for flood response.

Flood protection capital projects are prioritized to protect the largest number of people, homes and businesses, as well as safeguard the highways, streets, public transportation and business centers that people depend on for their livelihoods. At every opportunity, Valley Water takes a multi-benefit approach to flood protection projects, which includes incorporating water quality, water supply, environmental stewardship, and recreational enhancement benefits.

All the construction projects under Priority E are undertaken in partnership with the federal government, and will require federal funding in addition to local funding to complete the preferred scope. Should federal funding become scarce, a reduced scope would be implemented, as described in the individual project summaries.

Whenever possible, Valley Water also leverages funds from the state, local municipalities and other stakeholders.

Project E1: Vegetation Control and Sediment Removal for Flood Protection

Project E2: Emergency Response Planning

Project E3: Flood Risk Reduction Studies

Project E4: Upper Penitencia Creek Flood Protection
Coyote Creek to Dorel Drive – San José

Project E5: San Francisquito Creek Flood Protection
San Francisco Bay to Middlefield Road – Palo Alto

Project E6: Upper Llagas Creek Flood Protection
Buena Vista Avenue to Llagas Road – Morgan Hill, San Martin, Gilroy

Project E7: San Francisco Bay Shoreline Protection
Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

Project E8: Upper Guadalupe River Flood Protection
Highway 280 to Blossom Hill Road – San José

Sediment removal at Sunnyvale East Channel.

ON TARGET

Project E1 FY20 Highlights

- Maintained 90% of improved channels at design capacity.
- Completed 1,016 acres of in-stream vegetation management on 161 miles of streams countywide.
- Completed 15 sediment removal projects, removing 49,641 cubic yards of sediment to maintain design capacity.
- Completed 2,748 acres of upland vegetation management.

Project E1

Vegetation Control and Sediment Removal for Flood Protection

This project supports Valley Water's ongoing vegetation control and sediment removal activities that reduce flood risk by maintaining design flow conveyance capacity of flood protection projects. These activities also provide access for maintenance personnel and equipment. The project includes: controlling in-stream vegetation growth, removing sediment at appropriate intervals, removing trees, and performing weed abatement and pruning to provide maintenance access and establish firebreaks. Before carrying out maintenance activities, Valley Water personnel perform biological pre-construction surveys to minimize environmental impacts. Allocations for Project E1 also helps fund future maintenance of flood protection projects completed under the Safe, Clean Water program.

This project is comprised of 4 sub-projects that support Valley Water's ongoing vegetation control and sediment removal activities. These sub-projects are:

E1.1 Vegetation Control for Capacity

E1.2 Sediment Removal for Capacity

E1.3 Maintenance of Newly Improved Creeks

E1.4 Vegetation Management for Access

Benefits

- Ensures that existing flood protection projects continue to provide maximum flood protection
- Provides safe access for maintenance of creek channels
- Reduces fire risk along creeks and maintains compliance with fire codes
- Improves water quality

Key Performance Indicators (15-year Program)

1. Maintain 90% of improved channels at design capacity.
2. Provide vegetation management for 6,120 acres along levee and maintenance roads.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

In FY20, 90% of improved channels were estimated as having been maintained at design capacity. Improved channels are those channels where Valley Water has fee or easement land rights and have been modified for flood protection purposes. This estimated percentage is based upon identification of sediment and vegetation that compromise the flow conveyance capacity of channels. This identification occurs through routine maintenance inspections, following operations and maintenance manuals and stream maintenance guidelines, and review of as-built plans and specifications.

Valley Water continues to update stream maintenance guidelines, which will provide improved thresholds for sediment removal and vegetation management. These updated guidelines will better inform the inspection and maintenance process for Valley Water's flood protection assets. By the end of FY20, Valley Water completed 29 guidelines. Another five guidelines are anticipated to be completed in FY21, and Valley Water is currently on-track to complete or update 40 guidelines by 2023.

E1.1 Vegetation Control for Capacity

Completed 1,016 acres of in-stream vegetation management to reduce flood risk on 161 miles of streams throughout the county using an integrated combination of mechanical, grazing, hand labor and herbicide methods (Graph E1.1).

E1.2 Sediment Removal for Capacity

Completed 15 sediment removal projects, removing 49,641 cubic yards (CY) of sediment to maintain design capacity (Graph E1.2). The Safe, Clean Water Program funds 14% of this work. The following table includes the quantities of sediment removed from each watershed/creek, and a corresponding map can be found at: https://www.valleywater.org/project-updates/e1-vegetation-control-and-sediment-removal-flood-protection, under "Reports and Documents":

Watershed	Creek	Sediment removed (CY)
Lower Peninsula	Stevens Creek	16,000
West Valley	Sunnyvale East Channel	13,178
West Valley	El Camino Storm Drain (2 sites)	20
West Valley	Rodeo Creek (3 sites)	70
West Valley	Calabazas Creek	1,044
Guadalupe	Guadalupe River (5 sites)	5,785
Guadalupe	Ross Creek (3 sites)	130
Guadalupe	Canoas Creek	80
Coyote	Sierra Creek	1,064
Uvas/Llagas (Pajaro)	West Branch Llagas Creek	200
Uvas/Llagas (Pajaro)	Llagas Creek	12,070
TOTAL:		**49,641**

E1.3 Maintenance of Newly Improved Creeks

Completed 82 acres of in-stream vegetation management on Newly Improved Creeks to reduce flood risk on 7.9 miles of streams throughout the county using an integrated combination of mechanical, grazing, hand labor and herbicide methods.

Progress on KPI #2:

E1.4 Vegetation Management for Access

- Completed 2,748 acres of upland vegetation management to maintain access and provide fire protection using an integrated combination of mechanical, grazing, hand labor and herbicide methods. Of this total acreage, 15% of the completed work was funded by Safe, Clean Water for a total of 412.2 acres towards the 15-year goal of 6,120 acres. (Graph E1.3)
- During the first seven (7) years of the Safe, Clean Water Program, Valley Water managed a cumulative total of 3,148.77 acres of vegetation, compared to a 7-year target of 2,856 acres.

Financial Information

E1.1 Vegetation Control for Capacity

In FY20, 161% of the annual project budget was expended.

The over-expenditure was because the extensive instream removal effort undertaken on Guadalupe River from Tasman Drive to Highway 880 was not budgeted.

Financial Summary ($ Thousands) E1.1. Vegetation Control for Capacity								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,759	$0	$1,759	$2,713	$113	$2,827	161%	$24,571	40%

E1.2 Sediment Removal for Capacity

In FY20, 121% of the annual project budget was expended.

Over-expenditure of this project occurred because sediment exceeded criteria for reuse and delivery to Pond A8. The sediment was instead delivered to landfills, thereby incurring additional disposal costs.

Financial Summary ($ Thousands) E1.2. Sediment Removal for Capacity								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$690	$0	$690	$832	$0	$832	121%	$9,848	39%

E1.3 Maintenance of Newly Improved Creeks

In FY20, 62% of the annual project budget was expended.

Under-expenditure of this project occurred because not as much instream vegetation management on newly-improved creeks was needed as originally anticipated.

Financial Summary ($ Thousands) E1.3. Maintenance of Newly Improved Creeks								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$217	$0	$217	$134	$0	$134	62%	$19,051	1%

E1.4 Vegetation Management for Access

In FY20, 100% of the annual project budget was expended.

Upland vegetation management costs were high during the year due to the late-season rains that continued into June 2019. As a result, weed abatement work that was conducted in March–June had to be done again in the July–October timeframe to ensure fire code compliance, resulting in unanticipated costs.

Financial Summary ($ Thousands)
E1.4. Vegetation Management for Access

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$539	$0	$539	$537	$1	$538	100%	$6,156	51%

Opportunities and Challenges

Coordination with Project D8: South Bay Salt Ponds Restoration Partnership

To the extent possible, Valley Water coordinates its sediment removal activities, funded in part by Sub-Project E1.2, with Project D8: South Bay Salt Ponds Restoration Partnership. More specifically, removed sediment that meets specific re-use criteria is delivered to the U.S. Fish and Wildlife Service (USFWS)-owned Pond A8 to provide suitable substrate on which marsh vegetation can grow. In FY20, no sediment was placed at Pond A8 as sediment did not meet specific re-use criteria. Sediment was delivered to appropriate landfills.

Restoring Flow Conveyance Capacity

Sediment removal activities were performed at 20 sites along 11 creeks during the FY20 summer Stream Maintenance Program (SMP) season (generally, June 15 through October 15, 2019). More than 49,000 cubic yards of sediment was removed to restore flood conveyance capacity. Sediment removal helped keep these reaches of creek flowing adequately during the following winter season to minimize potential for flooding.

Regulatory Agencies' Permit Approvals

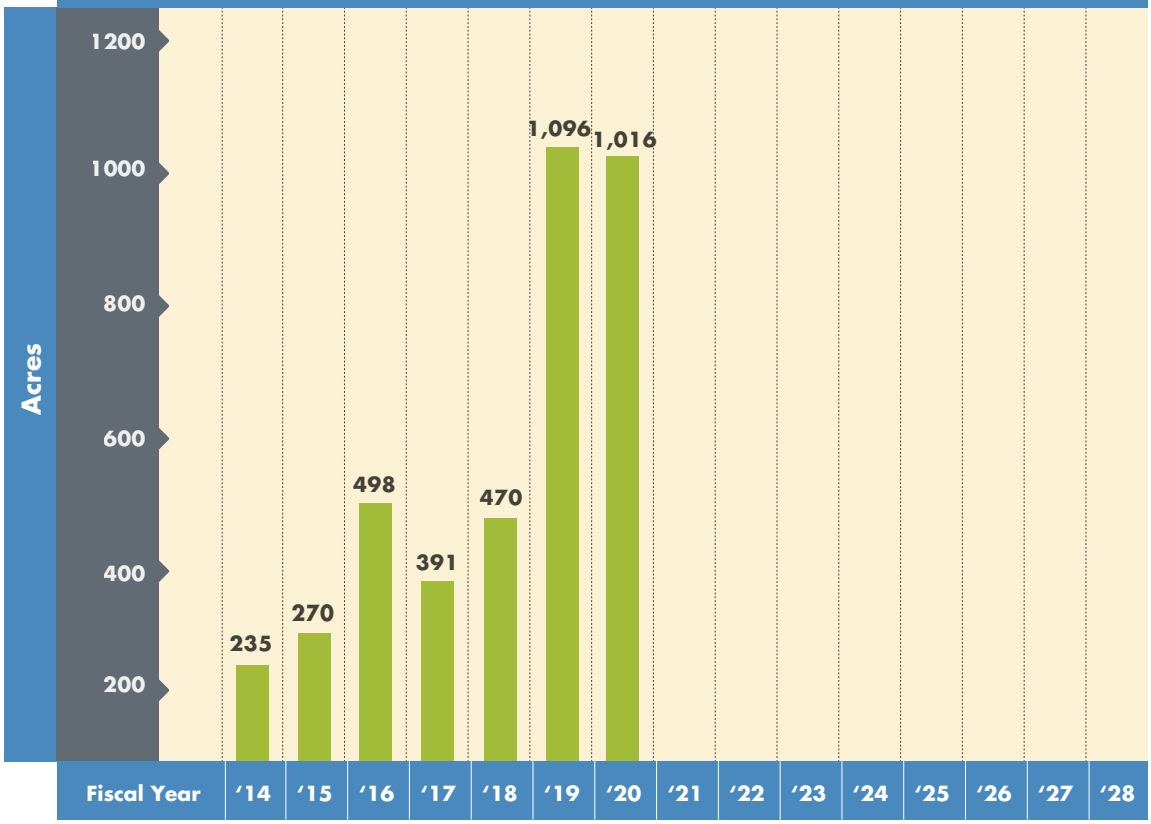
Obtaining regulatory agencies' permit approvals continues to be a challenge for Valley Water, affecting both the ability and cost to perform routine stream maintenance work. Valley Water continues to coordinate with regulatory agencies on mutually acceptable mitigation to offset impacts associated with recurrent sediment removal, vegetation management and other stream maintenance activities.

BEFORE: Sunnyvale East Channel before sediment removal.

AFTER: Sunnyvale East Channel after sediment removal.

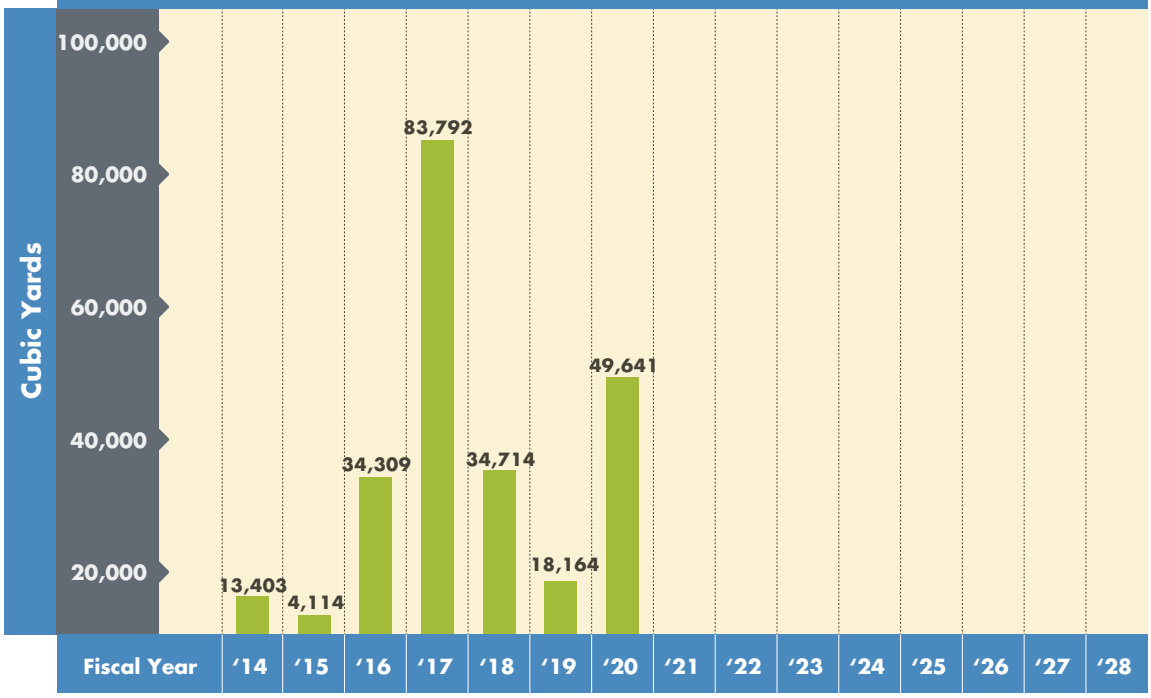
Graph E1.1 Vegetation Control for Capacity

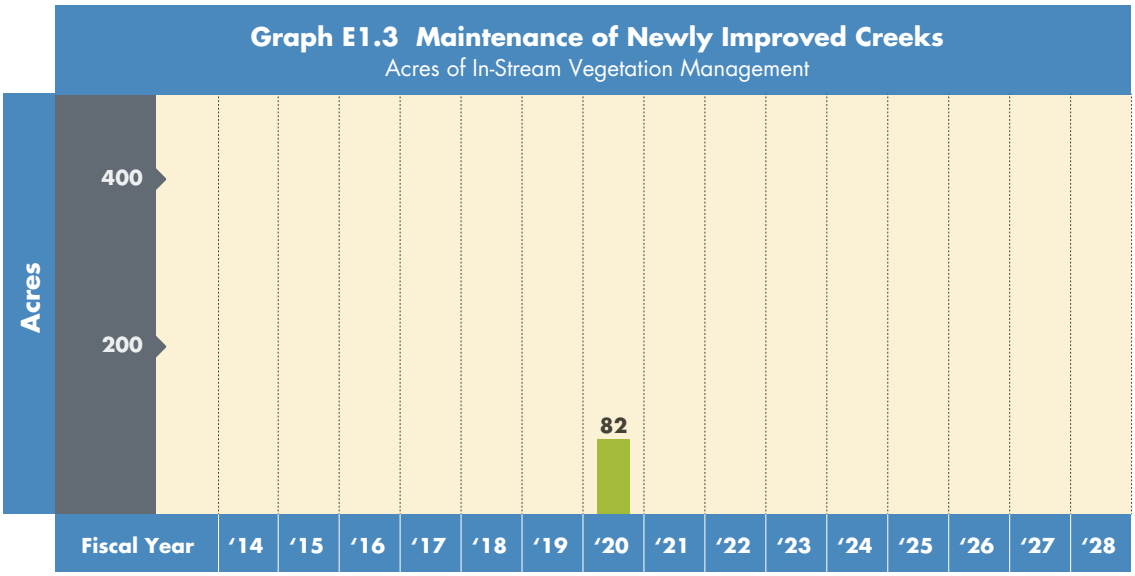
Acres of In-Stream Vegetation Management Removed to Maintain Design Capacity

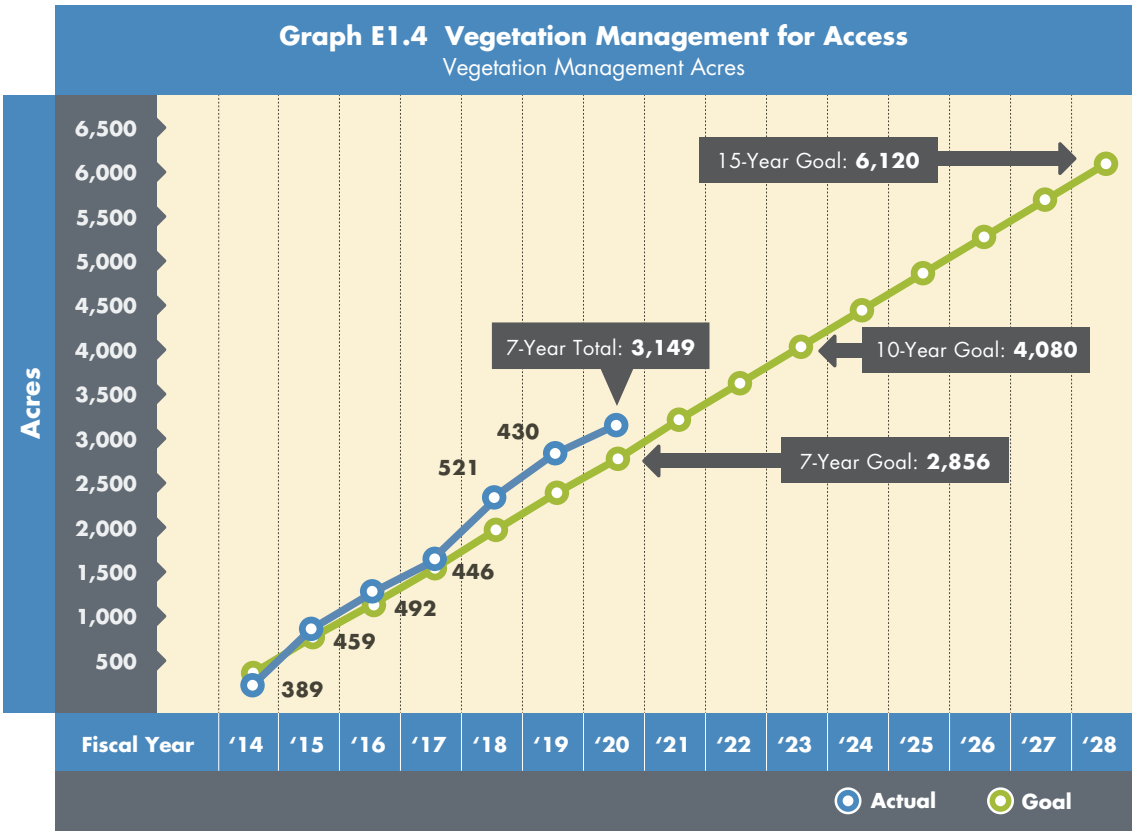


Graph E1.2 Sediment Removal for Capacity

Cubic Yards of Sediment Removed to Maintain Design Capacity




Graph E1.3 Maintenance of Newly Improved Creeks
Acres of In-Stream Vegetation Management
Acres
400
200
82
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28


Graph E1.4 Vegetation Management for Access
Vegetation Management Acres
Acres
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
15-Year Goal: 6,120
7-Year Total: 3,149
10-Year Goal: 4,080
7-Year Goal: 2,856
389
459
492
521
446
430
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
Actual
Goal

Project E2

Emergency Response Planning

This project allows Valley Water to work with local municipalities to clearly identify roles and responsibilities for floodplain management and flood emergency management and increase awareness of Valley Water's flood response procedures. The project supports countywide emergency response and preparedness activities, develops communication procedures and disseminates web-based flood forecasting information developed under Project C2, Emergency Response Upgrades. Collaborators also develop formal, site-specific flood response procedures or action plans (flood-fighting strategies), and coordinate outreach throughout the county so that the public receives uniform flood warning messages.

This project is comprised of 2 sub-projects that support Valley Water's ongoing emergency response planning. Refer to Appendix B in the 5-Year Implementation Plan for project descriptions. These sub-projects are:

E2.1 Coordination with Local Municipalities on Flood Communication

E2.2 Flood-Fighting Action Plans

Benefits

- Reduces flood damage
- Provides effective coordinated response to storm-related emergencies
- Improves community awareness about flood risks

Key Performance Indicators (15-year Program)

1. Coordinate with agencies to incorporate Valley Water-endorsed flood emergency procedures into their Emergency Operations Center plans.
2. Complete 5 flood-fighting action plans (1 per major watershed).

Geographic Area of Benefit: Countywide

Valley Water and City of San José testing JEAP at Ross Creek.

ON TARGET

Project E2 FY20 Highlights

- Continued engagement with the emergency management community by attending monthly meetings and hosting the annual Winter Preparedness workshop with attendees from various cities and the County.
- Hosted the annual joint tabletop exercise with the City of San José at Valley Water headquarters.
- Presented and participated in the annual San Francisquito Creek Multi-Agency Coordination (MAC) meeting and table-top exercise at the City of Palo Alto Community Center.
- Updated the Valley Water San Francisquito Creek Emergency Action Plan.
- Began the development of San Tomas Aquino Flood Response Plan.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

E2.1 Coordination with Local Municipalities on Flood Communication

Valley Water continues to work with local municipalities to plan and exercise plans to best communicate and coordinate during an emergency response. The highlights of FY20 efforts follow:

- On January 9, 2020, Valley Water and the City of San José held an exercise to test the new internal Valley Water response procedure, an appendix to the Joint Emergency Action Plan (JEAP). The exercise, which emphasized the Roles and Responsibilities and the Communication protocol, was held at the juncture of Ross Creek at Cherry Avenue.
- On January 16, 2020, Valley Water and the City of San José held the annual joint tabletop exercise at Valley Water headquarters. Opportunities for improvements were captured in an After-Action Plan, a document that codifies work elements for continuous improvement of the JEAP.
- On December 11, 2019, Valley Water presented its emergency response protocol at the annual San Francisquito Creek Multi-Agency Coordination meeting/tabletop exercise in the City of Palo Alto. Topics covered by other agencies were: Public Information Officers' roles, agency coordination, Joint Information Centers and the National Weather Service.
- On December 5, 2019, Valley Water hosted the Winter Preparedness Workshop at its headquarters. The workshop focused on the predicted weather forecast for the upcoming winter season, agencies' preparation for the winter, resources required for agencies and the public and coordinated response to emergencies. Valley Water and other agencies made presentations on the different types of flooding, monitoring/response capabilities, and emergency management coordination. Seventy-one participants attended the workshop, including representatives from NASA Ames Moffett Field, Palo Alto OES, Santa Clara County Fire, Santa Clara County Office of Emergency Management, Kaiser Permanente Santa Clara, Sunnyvale Department of Public Safety, Town of Los Gatos, Morgan Hill Community Emergency Response Team, Milpitas OES, California Department of Water Resources, National Weather Service, Morgan Hill OES, Emergency Response Team NASA, American Red Cross, Cupertino OES, CAL FIRE, County of Santa Clara Public Health Department, City of San José OES, Mountain View Fire Department, Palo Alto Public Works, and the cities of Morgan Hill, Mountain View, Palo Alto, San José and Santa Clara.

- As a result of the impacts of COVID-19 pandemic, Valley Water cancelled the tabletop exercises with the cities of Morgan Hill and Gilroy that were scheduled for spring of 2020.

Progress on KPI #2:

E2.2 Flood-Fighting Action Plans

In FY20, Valley Water worked on the following action plans:

- San Francisquito Emergency Action Plan - Valley Water updated Valley Water San Francisquito Emergency Action Plan and incorporated the input received from the City of Palo Alto and the Joint Powers Authority (JPA). The final version is posted on the Valley Water website https://www.valleywater.org/flooding-safety/flood-emergency-action-plans.
- In February 2020, Valley Water began developing the San Tomas Aquino Flood Response Plan, which is in its final stages of review and scheduled to be completed by August 2020.

Financial Information

In FY20, 53% of the annual project budget was expended.

The under-expenditure was primarily due to the cancellation of coordination activities, such as the tabletop exercises with the cities of Morgan Hill and Gilroy as a result of the COVID-19 pandemic. Furthermore, due to the pandemic, Valley Water personnel were deployed at the Emergency Operating Center that remained activated for months during the fiscal year.

Financial Summary ($ Thousands)
E2. Emergency Response Planning

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$297	$0	$297	$92	$66	$158	53%	$3,891	27%

Opportunities and Challenges

Coordination with Project C2: Emergency Response Upgrades

When applicable, the flood forecasting products and data collected under Project C2: Emergency Response Upgrades are being incorporated into Project E2: Emergency Response Planning documents to help inform decision-makers. For example, technical mapping and flood-warning baselines produced under Project C2 were used while developing the Guadalupe River flood-fighting action plan and in updating the action plan for San Francisquito Creek, which was developed in FY17. Project C2 focuses on developing flood-warning system infrastructure to assist flood responders by providing forecasted rainfall and streamflow and potential flooding information. Project E2 focuses on pre-event planning and collaboration with other agencies to develop flood response procedures that clarify roles and responsibilities before a flood event arises.

Community Rating System Scores

Project E2 offers an opportunity to meet certain National Flood Insurance Program's (NFIP) Community Rating System (CRS) criteria and potentially increase CRS scores for participating cities in the County. NFIP, administered by the Federal Emergency Management Agency (FEMA), offers flood insurance to all properties in communities that comply with minimum standards for floodplain management. CRS encourages and incentivizes communities to exceed the minimum NFIP requirements by offering discounts on flood insurance premiums. CRS credit points are earned for meeting the following three goals:

1. Reduce flood damage to insurable property;
2. Strengthen and support the insurance aspects of the NFIP; and
3. Encourage a comprehensive approach to floodplain management.

In August 2019, FEMA conducted an audit of Valley Water's CRS program as part of its 5-year audit/visit cycle. As part of the audit, Valley Water highlighted the EAPs to increase CRS points. By the end of FY20, Valley Water had not received the outcome of the audit or the timing of the results.

Project E3

Flood Risk Reduction Studies

This project develops engineering studies to understand the actual flood risk in high priority flood-prone areas and develops options for managing the flood risks.

Studies will focus on the following reaches:

- Alamitos Creek upstream of Almaden Lake in San José
- Rock Springs neighborhood along Coyote Creek in San José
- Calera Creek near Milpitas High School to Interstate 680 in Milpitas
- Tributaries to Lower Silver Creek (Ruby, Norwood, Quimby and Fowler creeks) in San José
- Ross Creek in San José, from Guadalupe River to Blossom Hill Road
- Adobe and Barron Creeks in Palo Alto, between Highway 101 and Middlefield Rd.

High-water marker on Alamitos Creek.

ON TARGET

Project E3 FY20 Highlights

- Ross Creek engineering study is about 65% completed and on track to be completed in FY21.
- Existing flooding risks along Lower Silver and Thompson Creek tributaries are low based on recent modeling results; some potential flooding risks on South Babb are being addressed through modeling different alternative solutions.

The engineering studies include hydrology, hydraulics, geotechnical, and remapping work of the floodplain areas to provide a more accurate reflection of the floodplain. If the outcome of the engineering studies results in updates to the parcels that fall within the effective Federal Emergency Management Agency (FEMA) floodplain, the updated maps and parcel count summaries will be submitted to the impacted city/cities. It is each impacted city's responsibility to determine how best to inform its community and whether to submit the updated maps to FEMA. If the impacted city decides to hold public meetings, Valley Water will provide support materials and offer technical support to address questions from the community. To revise the effective FEMA floodplain, the impacted city would be required to submit the updated maps through FEMA's formal Letter of Map Revision (LOMR) process. Valley Water's role in the LOMR process is to provide technical support and background on the analysis performed during the engineering study. If the impacted city chooses not to submit the updated maps to FEMA, the maps can still be useful to the city in planning efforts and for residents in determining whether or not to purchase flood insurance. Valley Water's updated maps will be made available to the public on valleywater.org.

Flooding History and Project Background

In 1997, the Rock Springs neighborhood suffered severe flood damages to approximately 25 low-income apartment buildings. A subsequent study investigated the flooding problem and offered possible solutions.

Alamitos and Calera Creeks were modified with levees and floodwalls about 30 years ago, but their designs do not meet current FEMA guidelines which were published after the projects were built. Both the Alamitos and Calera neighborhoods are mapped as regulatory floodplains. In 2012, FEMA released new draft technical guidance for mapping floodplains behind levees; these new guidelines may significantly reduce the size of the regulatory floodplains for Alamitos and Calera Creeks, but a study is needed to qualify for updated regulatory mapping.

Every winter, thousands of households, schools and businesses in San José are susceptible to flood damage in the Lower Silver Creek watershed. While Valley Water is improving the flood carrying capacity of Lower Silver Creek itself, the smaller tributaries continue to pose a flood risk. Project E3 would map and quantify these flood risks and identify possible solutions that may also provide environmental or recreational benefits.

Benefits

- Provides more accurate mapping of areas at risk of flooding
- May add or remove parcels from the FEMA regulatory floodplain, based on updated mapping standards
- Information can be integrated into flood warning program to provide advance, real-time warnings of impending flood events
- Provides technical basis for developing future flood protection plans, and for potential funding partnerships

Key Performance Indicators (15-year Program)

1. Complete engineering studies on 7 creek reaches to address 1% flood risk.
2. Update floodplain maps on a minimum of 2 creek reaches in accordance with new FEMA standards.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ON TARGET

Progress on KPI #1:

In FY20, significant progress was made towards the Ross Creek engineering feasibility study, which is being performed as part of the feasibility phase for a potential future flood protection project on Ross Creek. Progress on the study included:

1. Further developing the FY19 unsteady-state, 1-D HEC-RAS model to represent various feasible alternatives conditions which include combinations of proposed detention ponds, floodwalls and bridge modifications; and
2. Developing a draft feasible alternatives report, which is on track to be completed in early FY21.

This alternatives analysis will result in a potential flood protection design for the reach. The project is looking at

two different flood protection targets- 25-year and 1% flood protection (100-year flood).

So far, Valley Water has completed three (3) engineering studies and these are on reaches of Coyote Creek (Bay to Anderson Dam, including Rock Springs Neighborhood); Adobe and Barron Creeks tidal flood protection (Highway 101 to Middlefield Road); and Alamitos Creek (upstream of Almaden Lake). Valley Water plans to complete the remaining three (3) studies (for reaches of Calera Creek, Ross Creek and tributaries to Lower Silver Creek) by FY22.

The Coyote Creek study completed under this project was utilized to develop the short-term flood relief solutions that Valley Water constructed under the Coyote Creek Flood Protection Project.

Progress on KPI #2:

Currently, two areas are targeted by KPI #2 - Alamitos Creek and tributaries of Lower Silver Creek.

- Remapping of Alamitos Creek per the updated FEMA methodology was completed in FY19. We reached out to the City of San José in FY19 to discuss the remapped areas. So far the city is using this information to better understand flooding risks for their area.
- An ICM model (urban hydrology) for the Lower Silver and Thompson Creeks watershed was developed in 2016 for a previous FEMA study. That model represents the storm drains with diameters greater than 24" explicitly, so that storm drain routing and storage is accounted for directly. The model has been further developed to understand flooding risks along the Lower Silver and Thompson Creek tributaries. A few smaller storm-drain pipes were added to refine the floodplain in key areas.
- The model has been modified to represent proposed alternative solutions for deeper flooding (> 1 ft) observed for the 100-year floodplain near South Babb Creek. This study may result in a small project to address the noted flooding risk.

Financial Information

In FY20, 103% of the annual project budget was expended.

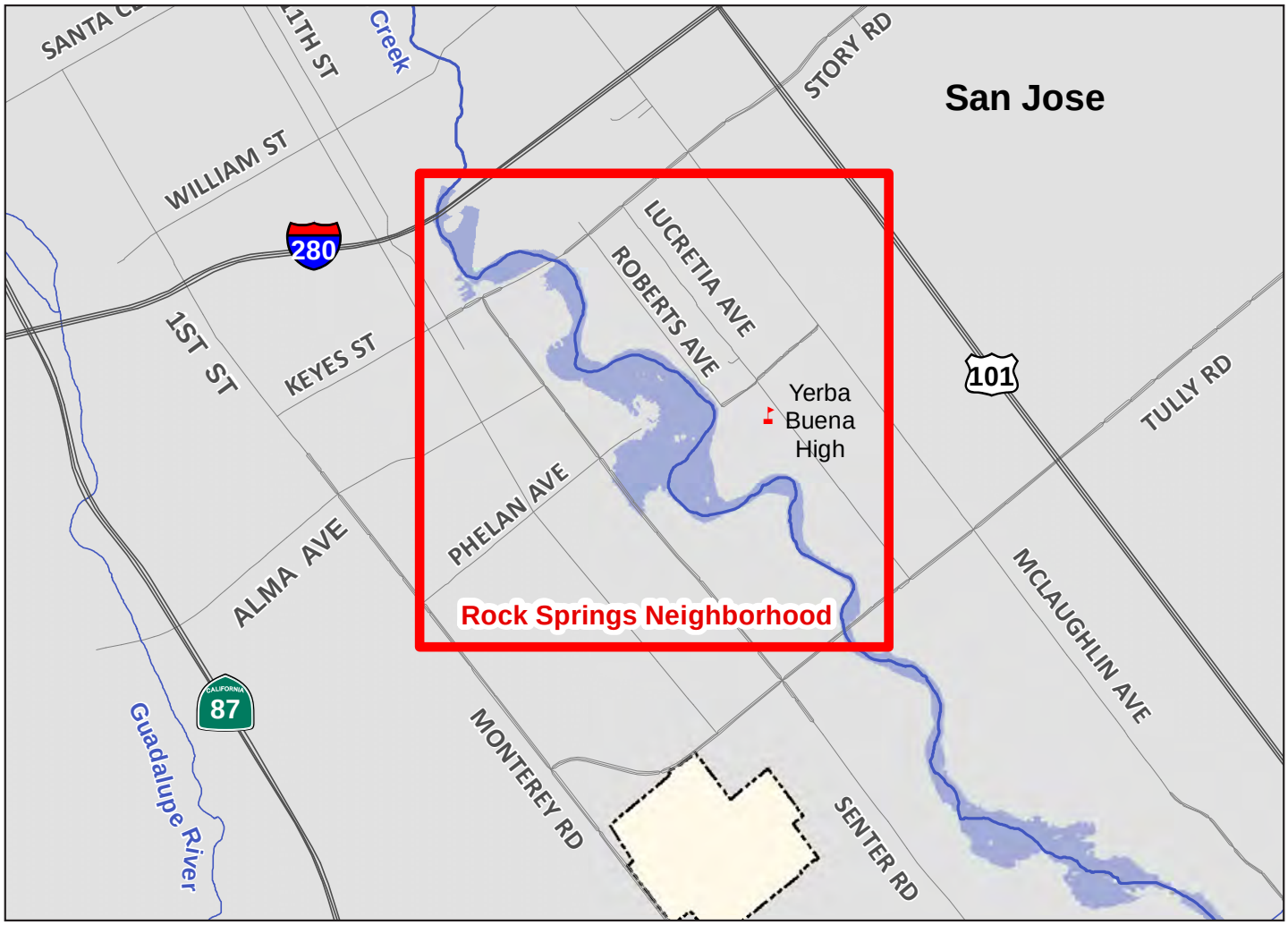
Financial Summary ($ Thousands) E3. Flood Risk Reduction Studies								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$966	$0	$966	$846	$149	$996	103%	$9,374	55%

Opportunities and Challenges

Urban Hydrology

The Ross Creek study has afforded Valley Water the opportunity to build a state-of-the-art ICM model for the area, which directly incorporates the effects of the storm drains into its hydrology predictions. Such modeling is very useful in areas like Ross Creek where storm drains are known to back up during storm events and where flows from storm drains represent a large fraction of the flows in the creek, noting that previous methodology did account for storm drains through parameterization.

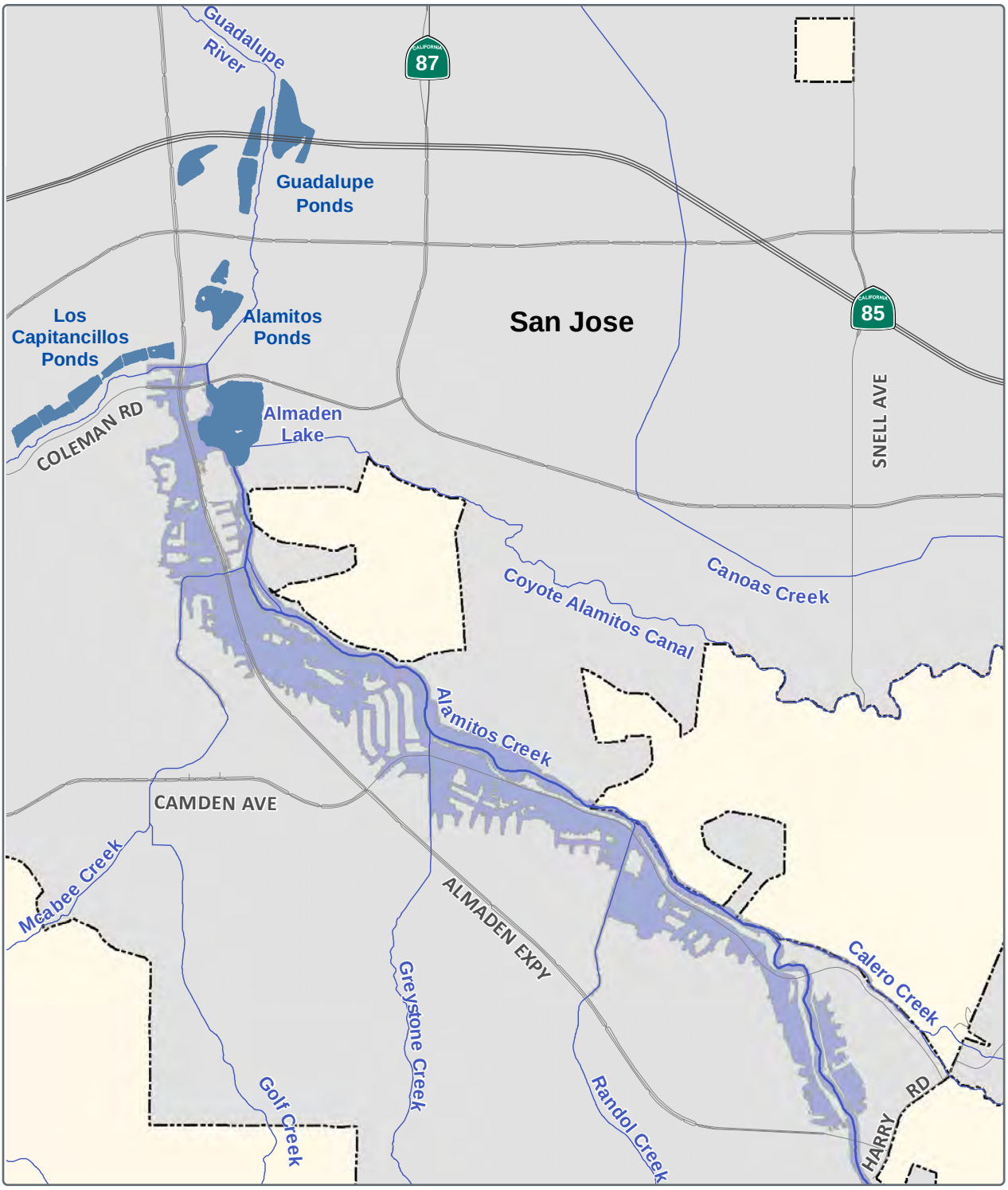
Figure 1 below shows a simplified version of the Coyote Creek (Rock Springs neighborhood) study map.



Legend

Coyote Creek	Santa Clara County Cities
Upper Coyote Creek Study - 1% Flood Risk Zone	Santa Clara County

Figure 2 below shows a simplified version of the Alamitos Creek study map.



Alamitos Creek

Alamitos Creek Study - 1% Flood Risk Zone

Santa Clara County Cities

Santa Clara County

Project E4

Upper Penitencia Creek Flood Protection Coyote Creek to Dorel Drive – San José

Preferred project: A federal-state-local partnership

This project continues a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 4.2 miles of Upper Penitencia Creek from the confluence with Coyote Creek to Dorel Drive. Part of the project will protect the area around the Bay Area Rapid Transit's Berryessa station near King Road, which would otherwise be subject to flooding.

The natural creek channel will be preserved while adjacent existing open space and parkland will remain as recreational areas, only rarely taking the role as a temporary floodplain so that floodwaters do not enter surrounding neighborhoods and commercial areas. Proposed construction measures may include modified floodplains, levees, flood walls, bypass channels, and fish passage improvements. Existing Valley Water water supply facilities may also be modified to protect habitat and improve water supply reliability.

The local funding from Safe, Clean Water Program allows Valley Water to move ahead with the planning, design and construction of the project.

Upper Penitencia Creek along Commodore Park.

ADJUSTED

Project E4 FY20 Highlights

- Completed the draft Planning Study Report.
- Finalized the Feasible Alternatives and Staff Recommended Project Report.

Flooding History and Project Background

Upper Penitencia is a major tributary of Coyote Creek, flowing westerly from Alum Rock Park through the residential neighborhoods of Berryessa and Alum Rock in San José. More than 5,000 homes, schools and businesses are located in this floodplain, including many high-tech and commercial industries supporting the greater Silicon Valley.

With the capacity to carry less than a 10-year event, Upper Penitencia Creek has spilled its banks at least 7 times since Valley Water began preparing flood reports in 1967. Damaging flood events occurred in 1978, 1980, 1982, 1983, 1986, 1995, and 1998, impacting many homes, businesses and surface streets.

Potential damages from a 1% (or 100-year) flood event are estimated at $455 million (in 2004 dollars, according to a USACE economic analysis), with average annual damages estimated at $30.5 million for the full reach from the Coyote Creek confluence to Dorel Drive.

The preferred project would build on a 1981 tri-party agreement between Valley Water, the City of San José, and Santa Clara County to preserve open land and provide flood protection along the Upper Penitencia Creek corridor. As a result of the agreement, 78 acres have been permanently preserved as Penitencia Creek

County Park and Penitencia Creek Trail. A 4-mile, intermittent trail follows Upper Penitencia Creek from 700-acre Alum Rock Regional Park to its confluence with Coyote Creek. In addition to much-needed flood protection, this project will help provide the opportunity for the City of San José and Santa Clara County to complete the long-planned trail and linear park.

Benefits

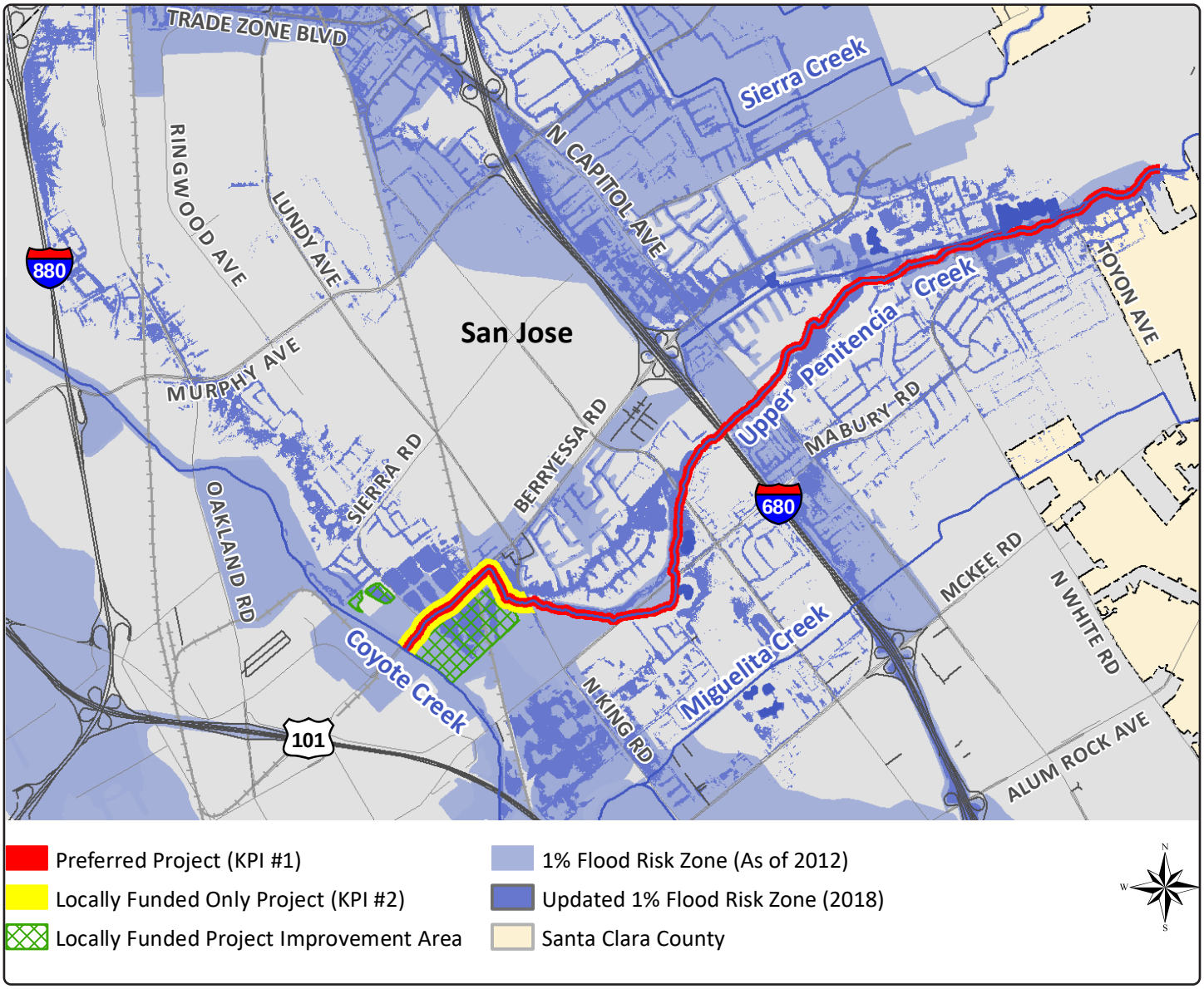
- Preferred project provides 1% flood protection to approximately 5,000 homes, schools and businesses. Locally funded-only project provides 1% flood protection to the proposed rapid transit station and areas downstream from King Road
- Reduces sedimentation and maintenance requirements
- Improves water quality in Coyote Creek
- Provides opportunities for recreation improvements consistent with the City of San José and Santa Clara County Park master plans

Key Performance Indicators (15-year Program)

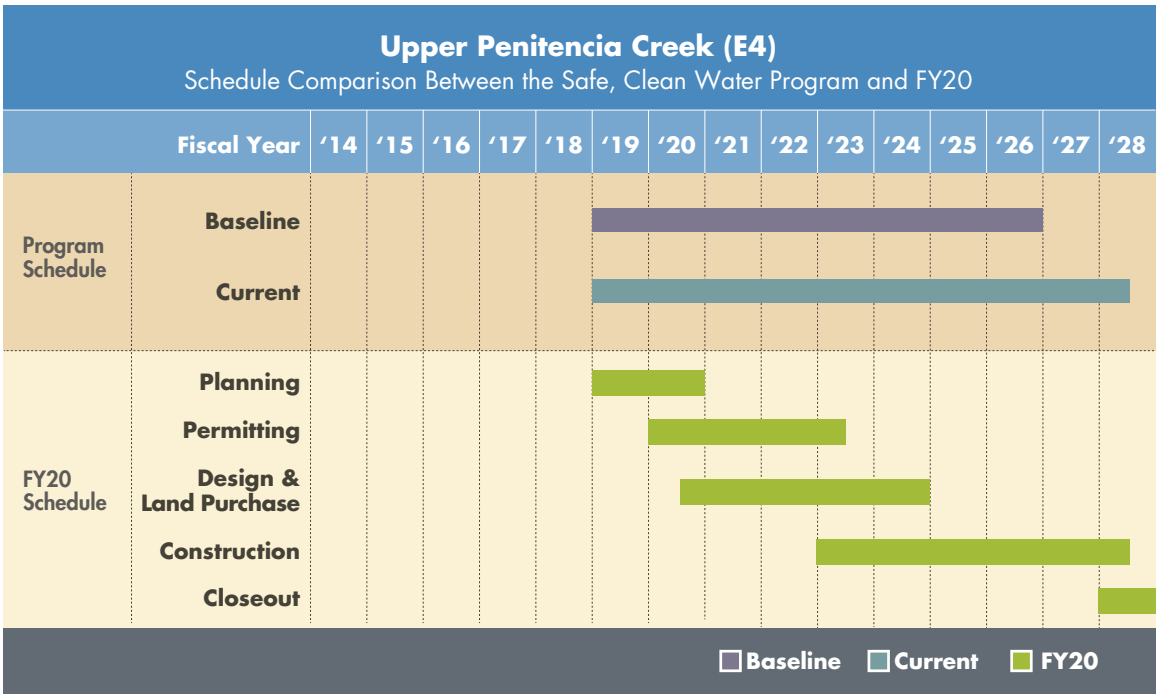
1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 5,000 homes, businesses and public buildings.
2. With local funding only: Acquire all necessary rights-of-way and construct a 1% flood protection project from Coyote Creek confluence to King Road.

Geographic Area of Benefit: San José and Milpitas

Project Location



Schedule



[1] Board approved a schedule adjustment through the change control process in FY20.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1 and #2 (combined):

In FY20, Valley Water continued work on the planning study, focusing on a multi-purpose project that would provide long-term benefits for flood protection, fish and wildlife, riparian vegetation, water supply and recreation.

In December 2019, the Valley Water Board directed staff to use local funding to proceed with the design and construction of the lower reaches of the project, from Coyote Creek up to Capitol Avenue. These lower reaches include Phase I of the project, which addresses the local-funding only KPI #2 of Coyote Creek confluence to King Road, and Phase II of the project of up to Capital Avenue, which is part of the preferred project KPI #1. The Board decision maximizes the flood protection provided to the community with local dollars, as these reaches would protect 1,250 parcels. In June 2020, Valley Water finalized the Feasible Alternatives and Staff Recommended Project Report, and also completed the draft Planning Study Report. The Planning Study Report will be finalized and the project will move into design in early FY21.

Financial Information

In FY20, 19% of the annual project budget was expended.

The under-spending was due to delays related to the impacts of COVID-19 pandemic. A consultant for the CEQA process was expected to be obtained by June 2020. That process is now expected to begin in early FY21. An on-call consultant is also being utilized for a geomorphology study for the beginning of the Design phase, rather than contracting a new consultant in FY20.

In December 2019, the Board approved reallocating $23 million in funding from the Upper Penitencia Creek Flood Protection Project to Coyote Creek Flood Protection Project to facilitate the construction of the Coyote Creek project.

Financial Summary ($ Thousands)
E4. Upper Penitencia Creek

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$1,305	$1,504	$2,809	$523	$0	$523	19%	$24,999	5%

Opportunities and Challenges

Schedule Adjustment

In FY20, the Board extended the project schedule, with construction to begin in FY24. This followed the December 2019 Board direction to staff to use local funding to proceed with the design and construction of the lower reaches of the project, from Coyote Creek up to Capitol Avenue. Subsequently, Valley Water staff proceeded with finalizing planning and beginning design for Phase I and Phase II of the project and revised the project schedule for construction to be completed in FY28.

Water Supply

There are a number of water supply facilities along the project reaches, including groundwater percolation ponds. Project alternatives should not reduce recharge operations in the watershed and should look for the opportunity to preserve water supply functions.

Ecosystem Restoration

The natural corridor at Upper Penitencia Creek is considered to be among the best remaining habitat areas in the Santa Clara Valley between Coyote Creek and the Diablo Range. Habitat in Upper Penitencia Creek could support several special-status species, including steelhead trout, California red-legged frog, California tiger salamander, and Western pond turtle. The upstream portion of the project area contains valuable and relatively undisturbed native California sycamore alluvial woodland.

Recreation

There are several parks and open spaces along the creek, as well as the Penitencia Creek trail. These recreational features are well-used by the community, and there are opportunities for this project to work jointly with its partners

to improve these resources. A significant benefit the project will provide is to build and extend the Penitencia Creek Trail down to the Coyote Creek confluence and connect it to the Coyote Creek Trail system.

Inundation Maps

In response to an Independent Monitoring Committee (IMC) recommendation, the inundation maps were added to the project webpage to show the approximately 8,000 parcels that will receive flood protection from this project (https://www.valleywater.org/project-updates/creek-river-projects/upper-penitencia-creek-flood-protection).

Confidence Levels

Schedule: Moderate confidence

Valley Water developed the preferred alternative and a draft Planning Study Report by the end of FY20. In early FY21, the project team plans to finish the planning study and transition into design. The majority of the preferred project is on public land and the project team has been working closely with the public entities to get the project built on schedule. A portion of the preferred project is on private land and Valley Water has been working closely with the owner to get a dedication for the project. There is the potential of finding cultural artifacts along the project site during construction, which may result in schedule delays.

Funding: Moderate confidence

In FY14-18, Valley Water aggressively pursued federal funding for the project. The USACE scope of the project was limited to a single-purpose flood risk reduction project, while the community and environmental regulatory agencies advocated for a multi-purpose project. In support of a multi-purpose project, Valley Water decided to move forward with planning, which would also facilitate a local funding only project aimed at meeting multiple beneficial goals including water quality and providing opportunities for recreation improvements and habitat restoration. Meanwhile, Valley Water is also exploring options to continue some level of a federal-funded project.

Permits: High confidence

The resource agencies have been brought in very early in the planning process and will continue to be engaged during planning and design. This will help to shape a true watershed project with associated ecosystem restoration measures and facilitate the acquisition of regulatory permits for project construction.

Jurisdictional Complexity: Moderate confidence

The project is entirely within the City of San José. A tri-party agreement between the City of San José, Santa Clara County and Valley Water to jointly use mutual resources along the creek for recreation, flood protection and water supply purposes aligns the local jurisdictions well with the project. Coordination with the City and County has gone well regarding the Coyote Creek to Capitol Avenue reaches. If and when Valley Water moves forward with the upper reaches, Capitol Avenue up to Dorel Drive, Valley Water will have to conduct significant coordination efforts with the City and County to develop plans and land-use agreements for flood detention on public land.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Friendship Bridge on San Francisquito Creek.

ADJUSTED

Project E5 FY20 Highlights

S.F. Bay to Highway 101: Completed in FY19

Upstream of Highway 101:

- Continued to work on the 95% design document for channel constrictions upstream of Highway 101.
- The City of Palo Alto Council certified the Environmental Impact Report and approved the Newell Road Bridge Replacement project.
- Construction of the Pope/Chaucer Street Bridge to begin after construction of the Newell Road Bridge and channel improvements.

Project E5

San Francisquito Creek Flood Protection
San Francisco Bay to Middlefield Road – Palo Alto

The project is sponsored by the San Francisquito Creek Joint Powers Authority (SFCJPA), of which Valley Water is a member agency, in partnership with the U.S. Army Corps of Engineers (USACE). The project builds on the planning and design tasks initiated as part of the Clean, Safe Creeks plan.

Preferred project: A federal-state-local partnership

This project will complete construction of setback levees and floodwalls from San Francisco Bay to Highway 101 to provide 1% (or 100-year) flood protection and ecosystem benefits. Upstream of Highway 101 the project will provide 1% flood protection, ecosystem protection, and recreational benefits.

The work upstream of Highway 101 will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street, and include; a combination of: modified bridges at University Avenue and Middlefield Road; upstream detention; under-ground bypass channels; and floodwalls.

Local-state-funding-only project:

The local-state-funding-only project will be the same as the preferred project downstream of Highway 101; but upstream of Highway 101, the project will remedy channel constrictions and modify bridges at Newell Road and Pope/Chaucer Street to allow the channel to contain flood waters equal to the channel's capacity of 7,000 cubic feet per second, approximately a 30-year event. Allowing this level of water to flow through the channel will protect approximately 3,000 parcels in Palo Alto from a flood event close to the February 1998 flood, the largest on record. Currently the channel can only convey a 15-year flood event.

The Newell Road bridge replacement, unlike the rest of the upstream project, is sponsored by the City of Palo Alto, who has applied for funding through Caltrans' Highway Bridge Program. The project has been programmed by Caltrans to fund approximately 89% of the total cost for replacing the Newell Road bridge. The local match funds, approximately 11% of the total cost, will be funded through Valley Water's Safe, Clean Water Program. The City of East Palo Alto and the SFCJPA continue to provide input on the Newell Road bridge replacement.

If sufficient funding becomes available, a 1% flood protection project upstream of Highway 101, including some combination of: modifications to the University Avenue and Middlefield Road bridges; upstream detention; underground bypass channels; and floodwalls, could be built.

Flooding History and Project Background

San Francisquito Creek is one of the last continuous riparian corridors on the San Francisco Peninsula, and is also home to 1 of the few remaining viable steelhead trout runs. The creek can cause severe flood damage with very little warning and has overflowed 7 times since 1910.

During the February 1998 El Niño event, record flooding caused an estimated $28 million in damages in Palo Alto, East Palo Alto and Menlo Park. More than 1,100 homes were flooded in Palo Alto, and Highway 101 was closed, as were numerous other roadways. The largest flood on record prior to 1998 occurred in December of 1955 when the creek overtopped its banks in several locations, inundating about 1,200 acres of commercial and residential property. Damages were estimated at nearly $2 million in 1956 dollars. Total damages from a 1% flood event are estimated at $300 million in Santa Clara and San Mateo Counties, as calculated by the USACE in 2011.

Benefits

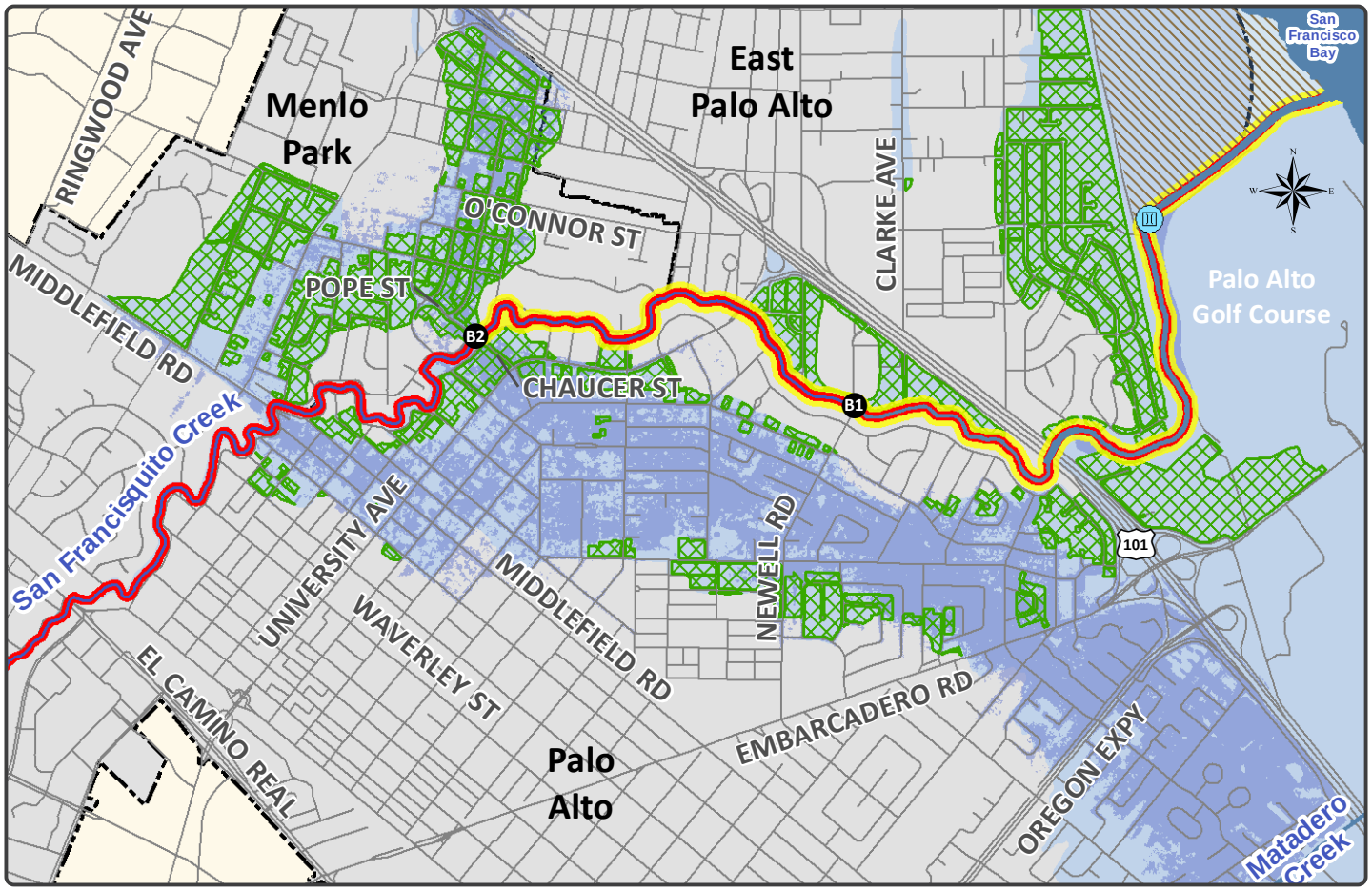
- Provides 1% flood protection for approximately 3,000 homes and businesses in Palo Alto
- Reduces bank erosion and sedimentation-related impacts along San Francisquito Creek
- Provides new or improved habitats for endangered species
- Improves water quality
- Enhances recreational opportunities for the community
- Leverages dollars via cost-shares and grants from the state Department of Water Resources and the California Department of Transportation

Key Performance Indicators (15-year Program)

1. Preferred project with federal, state and local funding: Protect more than 3,000 parcels by providing 1% flood protection.
2. With state and local funding only: Protect approximately 3,000 parcels from flooding (100-year protection downstream of Highway 101, and approximately 30-year protection upstream of Highway 101).

Geographic Area of Benefit: Palo Alto

Project Location



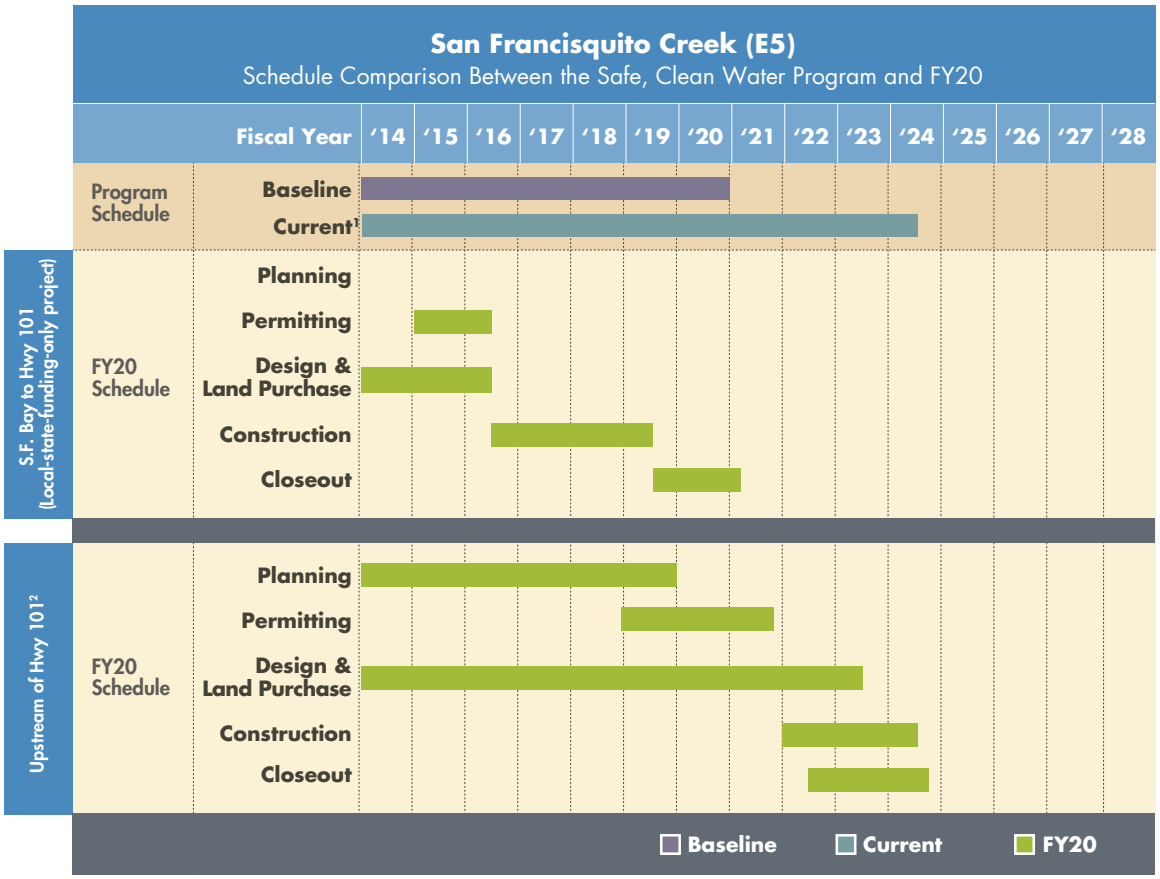
LEGEND

- Preferred Project (KPI #1)
- Local-State Funded Only Project (KPI #2)
- Locally Funded Project Improvement Area
- Faber Tract Marsh
- 1% FEMA Flood Risk Zone
- Updated 1% Flood Risk Zone (2016)
- Cities
- California Counties
- Friendship Bridge

Bridge Modification Projects:

- Newell Rd (Palo Alto)
- Pope/Chaucer St (Valley Water)

Schedule



[1] Board approved a schedule adjustment through the change control process in FY19 & FY20.
[2] Federal CFCJPA has not yet determined if pursuing federal funding for upstream of project.

Status History

Fiscal Year	Status
FY 14	*MODIFIED*
FY 15	*ON TARGET*
FY 16	*ON TARGET*
FY 17	*ON TARGET*
FY 18	*ADJUSTED*
FY 19	*ADJUSTED*

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1 and #2 (combined):

S.F. Bay to Highway 101 Project

Local-state-funding only - design and construction of 1% flood protection project

- Construction of flood protection improvements for this reach was completed on May 14, 2019, which included construction of approximately 4,000 feet of floodwall; excavating sediment and degrading the existing levee from East Bayshore Road to Geng Road; degrading approximately 600 feet of levee on the East Palo Alto side of the creek adjacent to the Faber Marsh; and completing approximately 800 feet of the new offset levee on the Palo Alto side of the creek. Installation of mitigation planting was completed in the summer of 2019.

Upstream of Highway 101 Project

Federal, state and local funding - planning and design of 1% flood protection project

- To obtain Congressional authorization and consideration of federal construction funding, the project is required to follow the USACE processes for feasibility, planning and design. Based upon delays to the feasibility phase, the Draft Feasibility Report was not able to be completed by USACE within the October 15, 2019 extended deadline. As a result, continuing with the required General Investigation (GI) Study would significantly impact the project's timeline and funding.

- Based upon the impacts to the project's timeline and funding, on June 27, 2019, the SFCJPA Board approved staff's recommendation to pursue options for USACE funding that does not require Congressional authorization through the USACE Continuing Authorities Program Section 205 (CAP 205) process. The SFCJPA and USACE worked to move forward with closing the project under the GI Study and formally initiate the CAP 205 process in early FY20.

Local-state-funding-only - construction of approximately 30-year flood protection project

Channel constrictions

- Continued to work on the 95% design document for channel constrictions upstream of Highway 101. The design document is being coordinated with the SFCJPA and expected to be completed in December 2020. Construction is expected to begin in the summer of 2021.

- The SFCJPA's environmental consultant prepared the draft Environmental Impact Report (EIR), which was released in April 2019 for public review and comment. Three separate public hearings were held to obtain input from the public in Menlo Park, East Palo Alto and Palo Alto in May and June of 2019. The EIR was completed and certified by the SFCJPA board in September of 2019.

Newell Road Bridge

- The City of Palo Alto is responsible for planning, permitting, design and construction of the Newell Road Bridge Replacement project. The planning, permitting and design phases are primarily funded by a Caltrans grant. Valley Water is contributing the required local cost share for the grant. The draft EIR was released for public review and comment on May 31, 2019. Four separate public hearings were held to obtain input from the public in East Palo Alto and Palo Alto in June and July of 2019. On June 1, 2020, the City of Palo Alto Council certified the Environmental Impact Report and approved the proposed project. The design is scheduled to be completed by the end of 2020. Construction is anticipated to begin in winter 2021 and the in-channel work must be completed by October 2022, with any remaining work outside top-of-bank completed by winter 2022.

Pope/Chaucer Street Bridge

- Pope/Chaucer Street Bridge design has resumed and is expected to be completed by early 2021. Because the Pope/Chaucer Street Bridge is located upstream of the Newell Road Bridge and because the City of Palo Alto does not want those two bridges be closed at the same time for construction, construction of the Pope/Chaucer Street Bridge will begin after construction of the Newell Road Bridge and channel improvements. Currently, construction of the Pope/Chaucer Bridge is expected to begin in the summer of 2023.

Financial Information

In FY20, approximately 38% of the annual project budget was expended.

The underspending was primarily due to the on-going regulatory permit acquisition process and a funding shortfall which together resulted in postponing the construction of certain elements in Phase 2 from FY20 to a later date. The project schedule has been extended to FY24 as a result of the delay in beginning construction on Phase 2.

Financial Summary ($ Thousands)
E5. San Francisquito Creek

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Bduget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26284001 Planning and Design (Highway 101 to Searsville Dam)	$0	$112	$112	$1	$0	$1	1%	$28,843	16%
26284002 Construction (SF Bay to Highway 101 and Upstream Elements)	$2,805	$948	$3,754	$1,121	$349	$1,470	39%	$51,535	91%
Total	**$2,805**	**$1,061**	**$3,866**	**$1,122**	**$349**	**$1,471**	**38%**	**$80,378**	**64%**

Opportunities and Challenges

Schedule Adjustment

In FY20, the Board approved schedule adjustment for this project, extending the completion date to FY24. The project schedule was revised to account for the delays associated with COVID-19 and the anticipated time to secure permits, easements and additional funding required to begin construction. The Pope-Chaucer bridge would be constructed in the summer of 2023 (FY23 and FY24). Given the complexities and uncertainties related to securing these items for a multi-jurisdictional project with substantial constraints, construction is not expected to begin until late 2021 and will continue into through the end of 2023 (FY24).

Refined Modeling Shows Higher Flood Protection

As more years of data become available, flood estimates are refined and result in revisions of design flows. With several storm events in recent years and additional stream gauge data becoming available, Valley Water has updated its hydrology that now shows that improving stream channel capacity upstream of Highway 101 to contain 7,200 cubic feet per second (cfs) would protect the community from an approximately 70-year flood event instead of previously estimated 30-year event. To accommodate further inflow downstream of Middlefield Road, Valley Water is using 7,500 cfs as a design flow for the project.

Confidence Levels

Upstream of Highway 101 Project

Schedule: Moderate confidence

Prior to constructing the local-state-funding-only project, the EIR must be finalized, the USACE feasibility study must be completed, and state and federal regulatory permits must be secured.

Funding: Low confidence

While some funding has been secured for constructing the local-state-funding-only project elements (which include remedying channel constrictions and modifications to Newell Road Bridge and Pope/Chaucer Street Bridge), there is a funding shortfall due to increasing construction costs and currently unknown design elements. The SFCJPA, in conjunction with USACE, continues to seek federal funding, though the CAP 205 process for the 1% flood protection project upstream of Highway 101. In addition, Valley Water continues to seek grant funding in partnership with the SFCJPA.

Permits: Moderate confidence

Valley Water does not expect any significant challenges with the acquisition of the regulatory permits for this phase of the project and is moderately confident it will receive the permits necessary to complete construction of the local-state-funding-only project by the Safe, Clean Water Program's identified completion date. The SFCJPA has conducted stakeholder meetings with regulators to address their concerns and has incorporated their comments in the EIR to facilitate the permitting process.

Jurisdictional Complexity: High confidence

The jurisdictional complexity of this project is unparalleled among Safe, Clean Water projects, as this project requires cooperation with the SFCJPA and its member agencies, which include Valley Water, the cities of Palo Alto, East Palo Alto and Menlo Park and the San Mateo County Flood and Sea Level Rise Resiliency District (previously known as San Mateo County Flood Control District). In addition, there are key project stakeholders, including USACE and Stanford University's Searsville Dam Project. Despite this, Valley Water has high confidence that the jurisdictions will continue to work together to accomplish the common goal of providing flood protection along San Francisquito Creek. The SFCJPA continues to work very closely with its member agencies to further this project along, and staff from all member agencies meet regularly ensure a strong collaborative relationship is maintained.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

BEFORE: View of SF Creek from East Bayshore.

AFTER: View of SF Creek from East Bayshore.

Upper Llagas Creek flooding.

MODIFIED

Project E6 FY20 Highlights

- The Board modified Project KPI 2, increasing the stretch of the project to be funded with local dollars only.
- Began Phase 1 construction in September 2019.
- Phase 2A construction (tunnel) expected to be advertised in Sept.-Oct. 2020.
- Working with the National Resources Conservation Service of the U.S. Department of Agriculture for possible grant funding for Phase 2B construction.

Project E6

Upper Llagas Creek Flood Protection Project Buena Vista Avenue to Llagas Road – Morgan Hill, San Martin, Gilroy

Preferred project: A federal-state-local partnership

This project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) and the state to plan, design, and construct improvements along 13.9 miles of channel. The project extends from Buena Vista Avenue to Wright Avenue, including West Little Llagas Creek in downtown Morgan Hill. The federally authorized preferred project protects the urban area of Morgan Hill from a 1% (or 100-year) flood, and reduces the frequency of flooding in surrounding areas. Construction includes channel modifications and replacement of road crossings. Valley Water continues to work with Congress to aggressively pursue federal funds to bring this project to full fruition. In 2012, project limits were extended 2,700 feet upstream to Llagas Road to address public concerns.

Flooding History and Project Background

The area sustained damage in 1937, 1955, 1958, 1962, 1963, 1969, 1982, 1986, 1996, 1997, 1998, 2002, 2004, 2008, 2009, 2011 and 2017. In 2009, many businesses and residences in downtown Morgan Hill were flooded under 1 foot of water. The project builds on the planning, design and property acquisition initiated under the Clean, Safe Creeks plan of 2000.

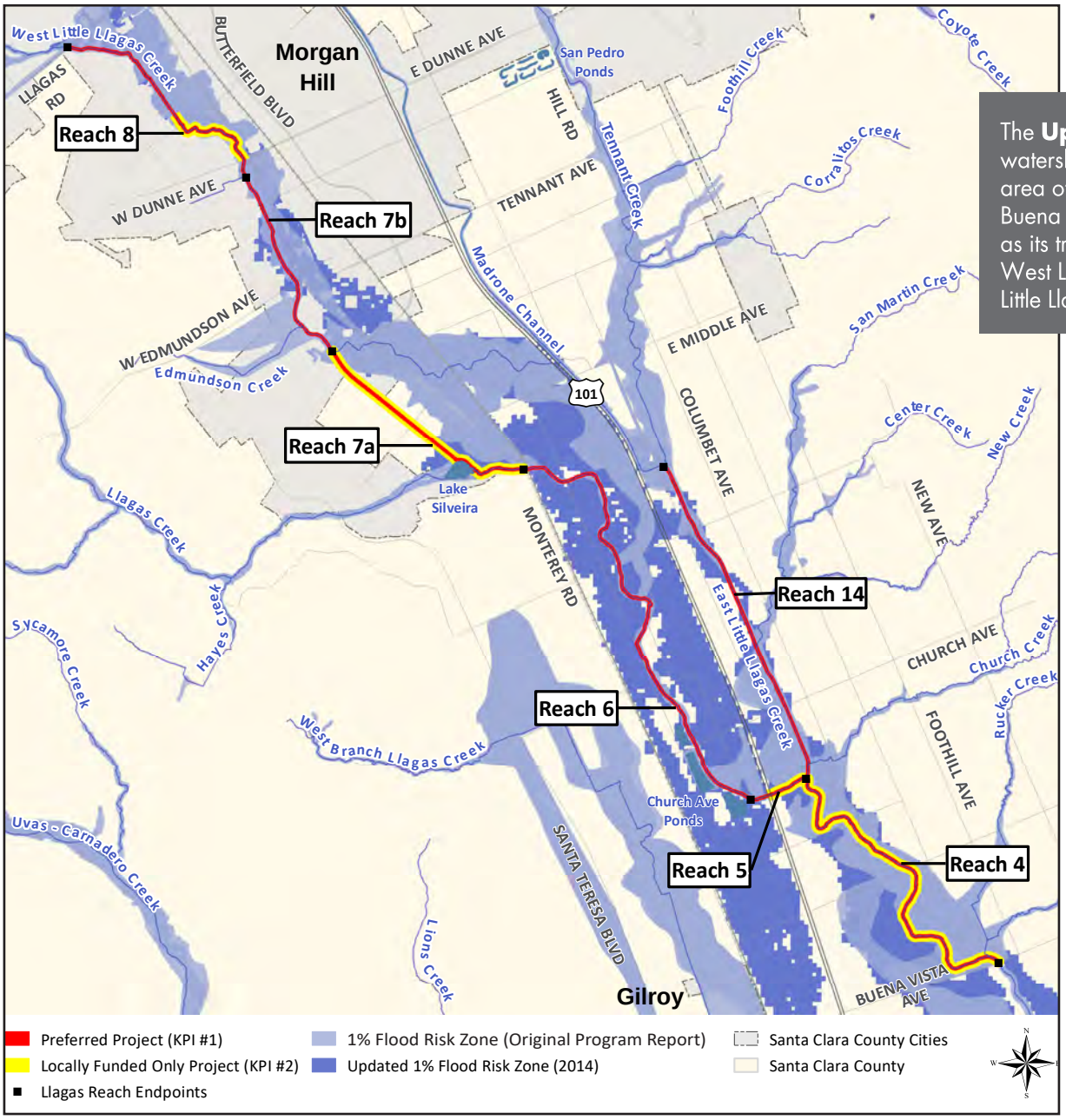
Benefits

- Preferred project provides 1% flood capacity for 4 miles of channel in downtown Morgan Hill, protecting approximately 1,100 homes and 500 businesses
- Preferred project provides 10-year flood protection to approximately 1,300 agricultural acres in Morgan Hill, Gilroy and San Martin
- Locally-funded-only project provides 1% flood protection for a limited number of homes and businesses in Morgan Hill
- Improves stream habitat and fisheries
- Creates additional wetlands
- Improves stream water quality
- Identifies opportunities to integrate recreation improvements with the City of Morgan Hill and others as appropriate

Key Performance Indicators (15-year Program)

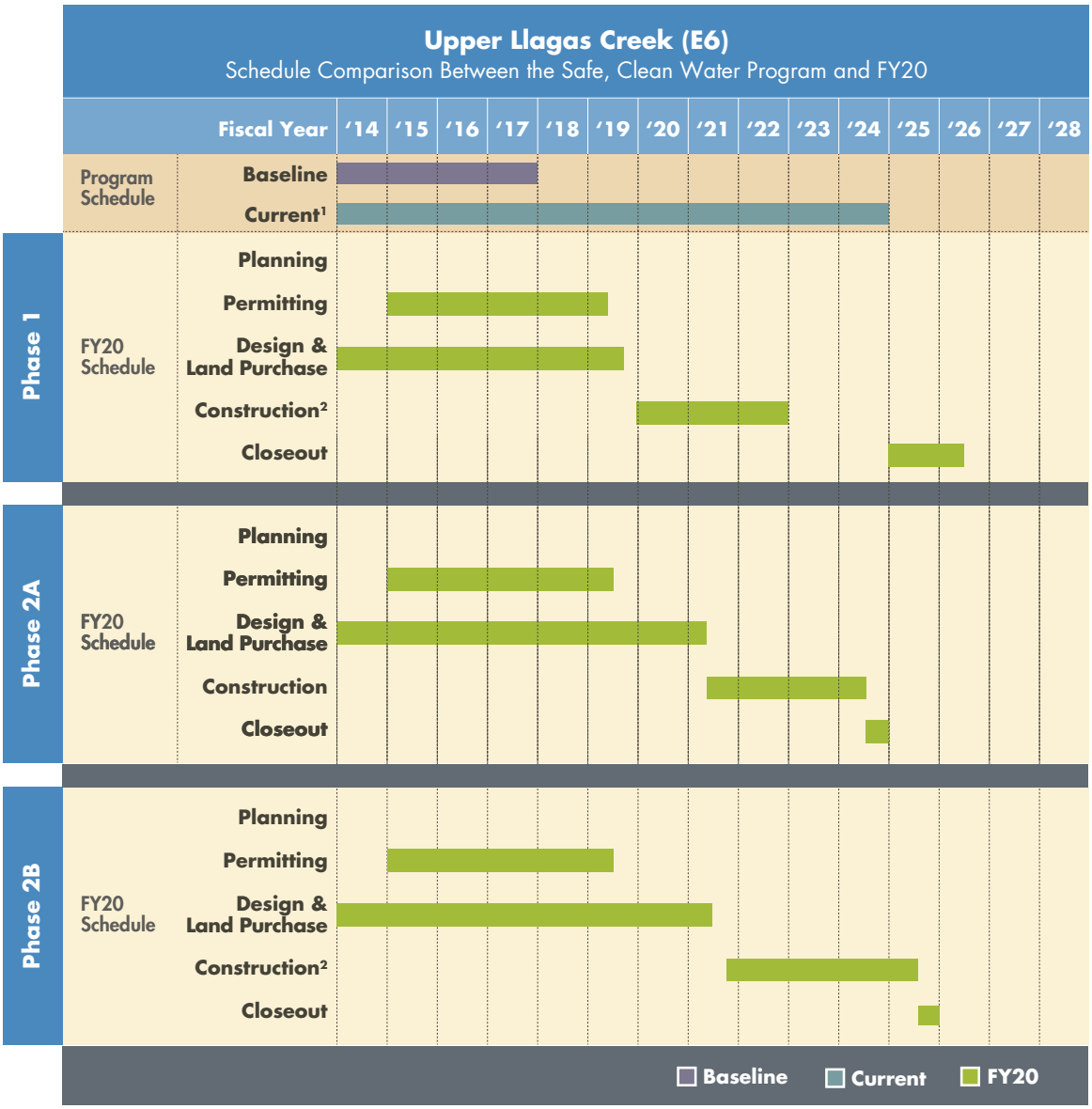
1. Preferred project with federal and local funding: Provide flood protection to 1,100 homes, 500 businesses, and 1,300 agricultural acres, while improving stream habitat.
2. Construct flood protection improvements along Llagas Creek from Buena Vista Avenue to Highway 101 in San Martin (Reaches 4 and 5 (portion), Monterey Road to Watsonville Road in Morgan Hill (Reach 7a), approximately W. Dunne Avenue to W. Main Avenue (portion of Reach 8), and onsite compensatory mitigation at Lake Silveira .

Geographic Area of Benefit: Morgan Hill, San Martin and Gilroy
Project Location



The **Upper Llagas Creek** watershed encompasses the area of Llagas Creek north of Buena Vista Avenue as well as its tributaries, including the West Little Llagas and East Little Llagas Creeks.

Schedule



[1] Board approved schedule adjustments through the change control processes in FY16, FY17 and FY19.

[2] Construction also includes a 3-year revegetation establishment period, not shown.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ADJUSTED

Status for FY20: MODIFIED (Public hearing held on January 14, 2020)

Progress on KPI #1 and #2 (combined):

On January 14, 2020, the Board held a formal public hearing and approved modification to the local-funding project only KPI #2 to: "Construct flood protection improvements along Llagas Creek from Buena Vista Avenue to Highway 101 in San Martin (Reaches 4 and 5 (portion), Monterey Road to Watsonville Road in Morgan Hill (Reach 7a), approximately W. Dunne Avenue to W. Main Avenue (portion of Reach 8), and onsite compensatory mitigation at Lake Silveira." The modification maximized the efficacy of the available secured funds and increased the length of the project to be built with available local funds from approximately 2.9 miles to approximately 4.9 miles.

Phase 1 – Reaches 4, 5 (portion), and 7A (Buena Vista Avenue to Highway 101 in San Martin and from Monterey Road to Watsonville Road in Morgan Hill)

- The Phase 1 construction began in September 2019, with the completion of flood protection improvements scheduled by May 2022. This will be followed by a three (3)-year native revegetation plant establishment period.

Phase 2 – Reaches 5 (portion), 6, 7B, 8 and 14 (Highway 101 to Monterey Road in San Martin, from Watsonville Road to Llagas Road in Morgan Hill, and from Sycamore Avenue to approximately Highway 101 in San Martin)

- The Board's January 2020 decision split Phase 2 of the project into two phases--Phase 2A and Phase 2B.
    - Phase 2A consists of construction a portion of Reach 8 from Ciolino Avenue upstream to approximately 300 feet north of the existing West Main Avenue and Hale Avenue intersection. It also includes construction of the proposed approximately 2,300 linear feet horseshoe-shaped underground high-flow diversion tunnel and approximately 1,600 linear feet of twin reinforced concrete box culverts (10 ft x 10 ft) upstream and downstream of the proposed tunnel. Construction will include traffic control, detours, road work, utility relocations and coordination, fencing, soil testing as required for off-site disposal, concrete and other miscellaneous work, community outreach and coordination. Construction is anticipated to take approximately 2.5 years to complete. Phase 2A is tentatively scheduled for construction advertisement in September 2020.

- Phase 2A right-of-way requires the acquisition of four (4) temporary construction easements. Negotiations are underway and acquisition is anticipated before August 2020.
- Phase 2A construction is anticipated to cost approximately $50 million.
- Phase 2B consists of construction of the remaining portion of Reach 5 and all of Reach 6 (Highway 101 upstream to Monterey Road), Reach 7B (Watsonville Road to Ciolino Avenue), the remaining portion of Reach 8 (approximately West Main Avenue to Llagas Road), and Reach 14 (confluence with Reach 4 upstream to Sycamore Avenue). Phase 2B construction consists of approximately 1,900 linear feet of twin reinforced concrete box culverts (10 ft x 10 ft), creek modifications and excavation by widening and deepening, installation of culverts at various street crossings, construction of an inlet basin weir split-flow structure, bridge underpinning work, installation of instream complexities, removal of plantings and non-native plantings, habitat enhancements, revegetation, utility relocations and coordination, outfall modifications, aggregate base maintenance roads, access ramps, traffic controls/detours, fencing, soil testing as required for off-site disposal, concrete and other miscellaneous work, community outreach and coordination. Construction is anticipated to take approximately three (3) years to complete, followed by a three-year plant establishment period. Phase 2B is pending funding, so no construction advertisement date has been determined, but the project is near shovel-ready status.
- Phase 2B right-of-way requires the acquisition of seven (7) additional parcels and six (6) temporary construction easements and this acquisition is anticipated by December 2020.
- Phase 2B construction is anticipated to cost approximately $80 million.
- Valley Water is currently working with the National Resources Conservation Service of the U.S. Department of Agriculture to secure grant funding to complete Phase 2B construction.

Upon completion of Phase 2A and Phase 2B, the project will provide flood protection to 1,100 homes, 500 businesses and 1,300 agricultural acres, while improving stream habitat.

Phase 1 and Phase 2 Combined

- FEMA accepted the Conditional Letter of Map Revision package on October 19, 2016. After the project is constructed, Valley Water will prepare a Letter of Map Revision for the city to submit to FEMA to initiate a revision to the flood maps.
- Valley Water has acquired approximately 2,000 linear feet of stream channel and present-day Lake Silveira to implement the compensatory mitigation recommended by the U.S. Fish and Wildlife Service (USFWS). The construction of this mitigation element began on May 1, 2020.
- The project has received all permits from state and federal regulatory agencies.
- The project was approved and the Final Environmental Impact Report was certified by the Valley Water Board on June 10, 2014. Valley Water will utilize the results of the California Rapid Assessment Method (CRAM) analysis to provide an assessment of the pre- and post-project environmental condition within the project reaches, including the compensatory mitigation site, Lake Silveira. The analysis will also provide an assessment of the performance/success of the revegetation sites, and to demonstrate compliance with regulatory performance criteria and requisite targets. A draft report was completed and received by Valley Water in May 2016 for review. The final pre-project environmental condition report was completed in March 2017.

Financial Information

In FY20, 91% of the annual project budget was expended.

The underspending was due to delays in the start of construction and the acquisition of properties. Phase 1 construction start was delayed by three months due to difficulties in contract advertising and the subsequent contract award. Acquisitions of several properties, which were expected to be acquired in FY20, have been delayed until FY21.

Financial Summary ($ Thousands)
E6. Upper Llagas Creek

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Bduget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26174051 Real Estate Acquisitions	$1,983	$2,892	$4,875	$2,552	$0	$2,552	52%	$73,606	48%
26174052 Construction	$9,741	$29,872	$39,613	$32,049	$6,617	$38,666	98%	$169,879	28%
26174054 Design	$261	$741	$1,002	$104	$0	$104	10%	$19,587	54%
Total	**$11,985**	**$33,505**	**$45,490**	**$34,706**	**$6,617**	**$41,323**	**91%**	**$263,071**	**35%**

Opportunities and Challenges

Environmental Impact Statement

The USACE issued the Final Environmental Impact Statement in November 2018. The USACE signed the Record of Decision and issued a 404 permit to enable construction to proceed on March 26, 2019.

Confidence Levels

Phase 1, Phase 2A, and Phase 2B of the project will be constructed independently.

Phase 1

Schedule: High confidence

Phase 1 construction began in September 2019 and is anticipated to be completed by May 2022.

Funding: High confidence

Fully funded through the Safe, Clean Water Program.

Jurisdictional Complexity: High confidence

The Phase 1 construction began on September 3, 2019. Cooperation on the Project has included, U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Central Coast Regional Water Quality Control Board, California Department of Water Resources (DWR) (state subventions), City of Morgan Hill and the County of Santa Clara.

Phase 2A

Schedule: High confidence

Valley Water continues to work on the remaining temporary construction easements for Phase 2A construction. Phase 2A construction is currently estimated to begin in late 2020 and scheduled to be completed by December 2023.

Valley Water is highly confident that property acquisitions will be completed, allowing Phase 2A of the project to be advertised for construction in August 2020.

Funding: High confidence

Fully funded through the Safe, Clean Water Program.

Jurisdictional Complexity: High confidence

Given the successful start of Phase 1 construction, confidence is high that cooperation on the Phase 2A of the project will continue with the USACE, CDFW, Central Coast Regional Water Quality Control Board, DWR (state subventions), City of Morgan Hill and the County of Santa Clara.

Phase 2B

Schedule: Moderate confidence

Valley Water continues to work on the remaining Phase 2B acquisitions. Valley Water must obtain the necessary rights-of-way to be able to advertise Phase 2B of the project for construction. Phase 2B construction advertisement is yet to be determined, pending securing additional state and/or federal funding. The project will take three (3) years to construct, followed by a three-year native plant revegetation establishment period.

Valley Water is moderately confident that property acquisitions will be completed by December 2020.

Funding: Moderate confidence

Valley Water will meet KPI #1 with the completion of Phase 2B construction. Valley Water continues to pursue approximately $80 million in external funding through state and federal funding opportunities. It appears the Federal Government may pass a stimulus bill to fund shovel ready projects to restart the U.S. economy and Phase 2B may qualify as a shovel ready project. Phase 2B will construct the remaining portion of Reach of 5 and Reach 6, Reach 7B, portion of Reach 8, and Reach 14.

Jurisdictional Complexity: High confidence

Given the successful start of Phase1 construction, confidence is high that cooperation on the Phase 2B of the project will continue with the USACE, CDFW, Central Coast Regional Water Quality Control Board, DWR (state subventions), City of Morgan Hill and the County of Santa Clara

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Chicago Marsh - S.F. Bay Shoreline

ON TARGET

Project E7 FY20 Highlights

For EIAs 1-10:

- Feasibility Cost Share Agreement signed by USACE and State Coastal Conservancy.
- Achieved first USACE Phase II Feasibility Study milestone.
- USACE completed a Project Management Plan for the Phase II Feasibility Study.
- Continued to coordinate with the South Bay Salt Pond Restoration Phase 2 Project for Mountain View, EIAs 4 and 5, flood risk management levee.

For EIA11:

- Contributed to the local cost shares for the design of the pedestrian bridge over UPRR and for the construction of Reach 1.
- Secured all the necessary rights-of-way for construction of Reaches 1, 2 and 3.
- USACE completed design of Reaches 1, 2 and 3 and continued design for Reaches 4 and 5.
- USACE is planning to re-advertise for construction of Reaches 1, 2 and 3 in fall of 2020.
- Valley Water has fully utilized all the Safe, Clean Water Program funds allocated to KPI #2.

Project E7

San Francisco Bay Shoreline Protection Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

This project is a partnership with the California State Coastal Conservancy, the U.S. Army Corps of Engineers (USACE), and regional stakeholders to provide tidal flood protection, restore and enhance tidal marsh and related habitats, and provide recreational and public access opportunities. Initial construction for flood protection is planned for Economic Impact Area (EIA) 11, which is the urban area of North San José and the community of Alviso.

This project relies on federal participation from USACE to review and approve the plans. Without federal participation, Valley Water cannot implement additional planning, design and construction due to limited available funding. The proposed Safe, Clean Water funding provides Valley Water's cost share to complete the planning study for EIAs 1-10, and provides a portion of Valley Water's cost share toward design and construction of flood protection improvements in the North San José area (EIA 11), in and near Alviso.

Flooding History and Project Background

This project stems from the 2003 acquisition of thousands of acres of former South Bay salt production ponds, purchased for restoration with combined public and private funding. The South Bay Shoreline Protection Project is an important component of the South Bay Salt Ponds Restoration Project, a large, multi-agency effort to restore 16,500 acres of tidal wetlands which involves all South Bay cities that meet the San Francisco Bay. Without incorporating flood protection measures, proposed recreational use and environmental restoration is likely to reduce the effectiveness of existing shoreline levees formerly maintained for salt production. Project E7 would upgrade levees to protect Silicon Valley's "Golden Triangle," bounded by Highways 101, 237 and 880, and extending north into the Baylands of Milpitas. Multiple flood events since the mid-1990s have damaged business operations in this area, now home to major high-tech corporations including Intel, Google, Yahoo, Cisco, and others. The project would also protect Alviso neighborhoods, as well as important infrastructure such as airports and sewage treatment plants.

The existing multi-agency partnerships for the South Bay Salt Ponds Restoration project and the San Francisco Bay Shoreline Study ensure that all goals for this largest wetland restoration on the West Coast will be incorporated. The Safe, Clean Water measure provides a share of the total funding needed for planning

and design phases for the full shoreline project area. It also provides the funding needed to purchase lands, easements and rights-of-way as necessary to construct improvements in EIA 11, and a share of the construction costs for that portion of the project.

Benefits

- Protects more than 1,000 residential structures and 100 non-residential structures (EIA 11)
- Provides planning and design to protect nearly 4,700 acres and more than 5,000 structures, including roads, highways, parks, airports and sewage treatment plants in all of Santa Clara County
- Allows for the restoration of 2,900 acres of tidal marsh and related habitats (EIA 11)
- Provides educational, recreational and public access opportunities

Key Performance Indicators (15-year Program)

1. Provide portion of the local share of funding for planning and design phases for the former salt production ponds and Santa Clara County shoreline area.
2. Provide portion of the local share of funding toward estimated cost of initial project phase (EIA 11).

Geographic Area of Benefit: Milpitas, Mountain View, Palo Alto, San José, Santa Clara and Sunnyvale

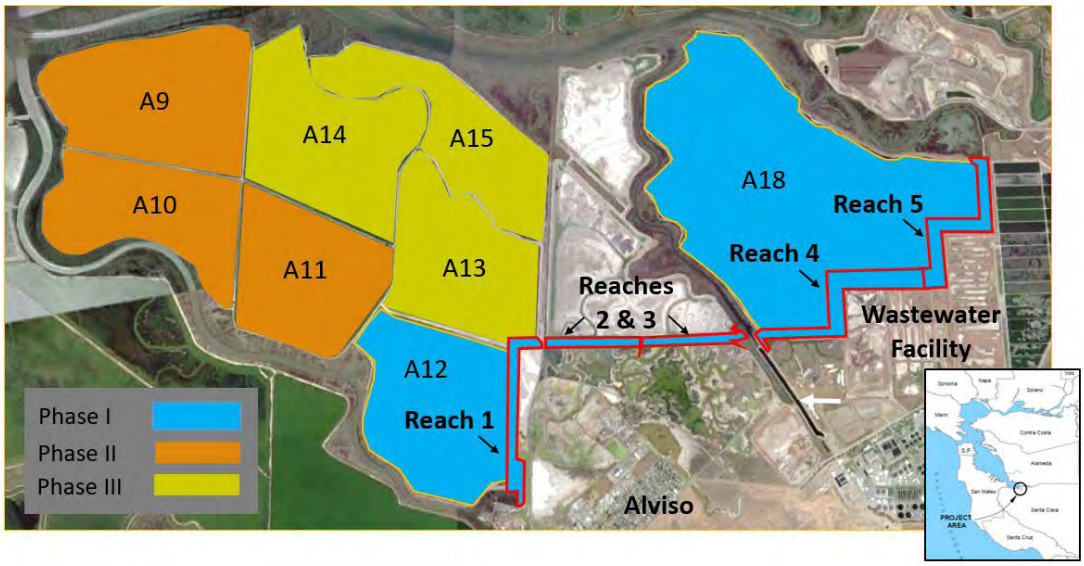
Project Location

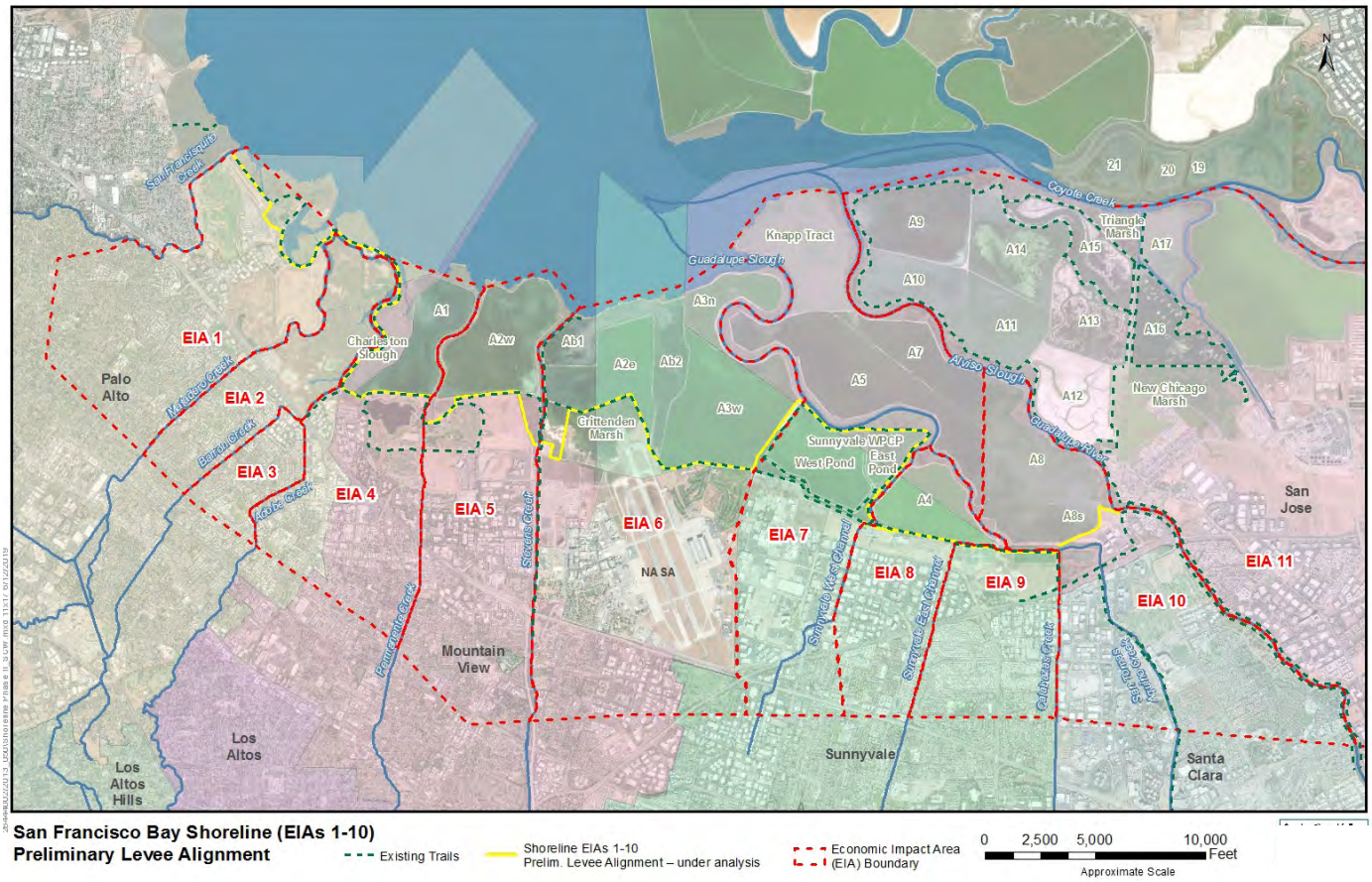
South San Francisco Bay Shoreline Protection
E1A 11 Project Construction Phases

Phase 1
(2019–2023)

Phase 2
(2027)

Phase 3
(2032)





Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ON TARGET

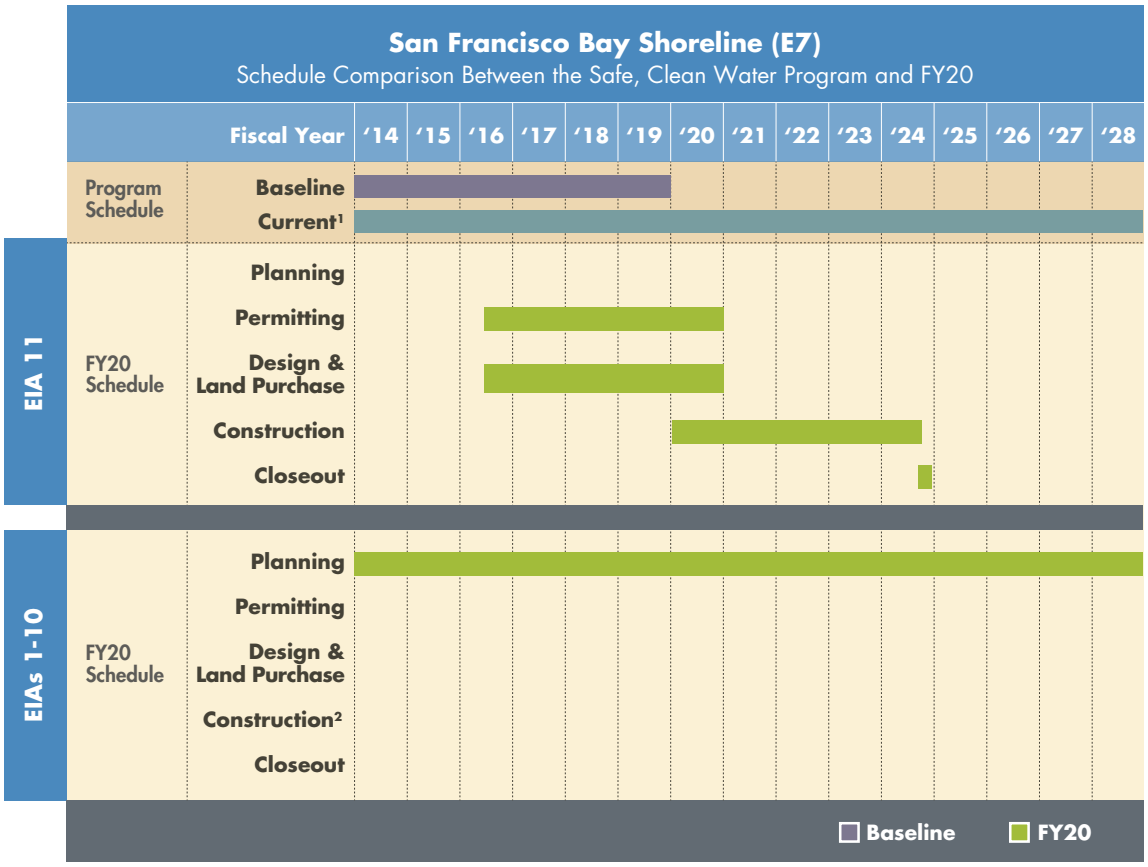
Status for FY20: ON TARGET

Progress on KPI #1:

<u>San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)</u>

- On September 26, 2019, Valley Water, USACE and the State Coastal Conservancy signed the Feasibility Cost Share Agreement for the South San Francisco Bay Shoreline Phase II Feasibility Study (Phase II Feasibility Study).

Schedule



[1] Board approved a schedule adjustment through the change control process in FY17.
[2] Construction phases are not funded by the Safe, Clean Water Program.

- The first USACE Phase II Feasibility Study milestone (Alternatives Milestone) was achieved on January 23, 2020. The USACE, Valley Water and State Coastal Conservancy agreed on continuing a phased approach by breaking up EIAs 1-10 into two separate studies. The USACE Phase II Feasibility Study will focus on EIAs 1-4, from San Francisquito Creek in Palo Alto to Permanente Creek in Mountain View. The USACE will seek funds for a future Phase III Feasibility Study focusing on the remaining EIAs 5-10, from Permanente Creek in Mountain View to Guadalupe River in San José.
- In May 2020, USACE completed a Project Management Plan for the Phase II Feasibility Study's scope, schedule and budget. The next Phase II Feasibility Study milestone (Tentatively Selected Plan) is scheduled for 2021.
- Valley Water is continuing to coordinate with the South Bay Salt Pond Restoration Phase 2 Project (SBSPRP) for the Mountain View, EIAs 4 and 5, flood risk management levee. Valley Water is also working with the SBSPRP for EIA 10, including exploring the re-routing of San Tomas and Calabazas creeks into Pond A8.

Progress on KPI #2:

San Francisco Bay Shoreline Protection – Urban area of North San José/Alviso/San José-Santa Clara Regional Wastewater Facility (EIA 11)

- In November and December 2019, Valley Water contributed $1,000,000 and $7,180,000, respectively, towards the local cost share for design of the pedestrian bridge over the Union Pacific Railroad (UPRR) and for construction of Reach 1.
- In early FY20, Valley Water completed securing all the necessary rights-of-way for the Reach 1, 2 and 3 construction. Reach 1 levee will extend from the Alviso Marina to the UPRR and Reach 2 and 3 will extend east from the UPRR to the Artesian Slough.
- In preparation for construction of Reach 1, Valley Water was able to acquire and stockpile approximately 106,000 cubic yards of levee fill material in Pond A12.
- The USACE completed design of Reaches 1, 2 and 3 and continue design for Reaches 4 and 5. On December 5, 2019, the USACE advertised the construction contract for Reaches 1, 2 and 3. On February 13, 2020, the USACE opened the bids received for the construction. However, because all the bids were significantly higher than over the acceptable USACE threshold, in April 2020, the USACE rejected all bids and the USACE is planning to re-advertise a new construction contract in fall of 2020 for construction to begin in spring of 2021.
- In December 2019, Valley Water has fully utilized all the Safe, Clean Water Program funds allocated to KPI #2. There will be no future reporting for this KPI.

Financial Information

In FY20, 120% of the annual project budget was expended.

For EIAs 1-10 project (KPI #1), 89% of the annual budget was expended. Valley Water provided a total of $550,000 in Safe, Clean Water Program cash to USACE as Valley Water's local cost-share for the Phase II Feasibility Study. Specific activities included biweekly project team meetings, plan formulation workshops, ecosystem restoration benefits modeling workshops, resource agency and local jurisdiction meetings and engagement, and supporting USACE efforts to prepare the materials for the baseline project conditions and array of alternatives for the Alternative Milestone meeting and Project Management Plan.

For EIA 11 project (KPI #2) 124% of the annual budget was expended. Most of the budget supported design work for Reaches 1 to 5 and preparation for Reach 1 construction. Valley Water provided a total of $8,180,000 in Safe, Clean Water Program fund to the USACE as Valley Water's local cost-share for Reach 1 construction and design of the pedestrian bridge of the UPRR. Valley Water also expended funds to acquire a portion of the Reach 1 levee fill material and completed acquiring the necessary rights-of-way for the Reach 1, 2 and 3 construction effort.

Financial Summary ($ Thousands) E7. San Francisco Bay Shoreline Protection									
Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26444002 EIAs 1-10	$0	$982	$983	$869	$0	$869	88%	($4,772)	0%
26444001 EIA 11	$2,994	$4,561	$7,556	$9,381	$0	$9,381	124%	$22,288	78%
Total	**$2,994**	**$5,544**	**$8,538**	**$10,249**	**$0**	**$10,249**	**120%**	**$17,516**	**117%**

Opportunities and Challenges

Confidence levels

San Francisco Bay Shoreline Protection – San Francisquito Creek to Guadalupe River (EIAs 1-10)

Schedule: Moderate confidence

The USACE initiated the Phase II Feasibility Study in September 2019 and is required to complete the study effort in three (3) years. To address concerns with Phase II Feasibility Study schedule risks, the project scope was reduced to EIAs 1-4 to allow adequate time to address the remaining EIAs 5-10 in a future Phase III Feasibility Study.

Funding: Moderate confidence

The USACE has received $1,100,000 but must rely on future federal budgets for the remaining $400,000 for their total $1.5 million. Additional federal funds will likely be needed to complete the extensive analysis required to meet both regulatory and USACE requirements. Requesting additional federal funding continues to be a challenge.

Permits: N/A

KPI #1 efforts do not require permits.

Jurisdictional Complexity: Moderate confidence

The confidence level is moderate due to the complexity involved with extensive regional coordination for a significant coastal flood protection project with an estimated price tag of nearly $800 million. In FY20, USACE, Valley Water and the State Coastal Conservancy agreed to continue a phased study approach in which USACE will study EIAs 1-4 in the Phase II Feasibility Study, followed by seeking federal funds to study the remaining EIAs 5-10 in a future Phase III Feasibility Study. This approach addresses USACE concerns with Phase II Feasibility Study risks by narrowing the project scope, schedule, budget, and group of stakeholders and allows for additional time to prepare for a Phase III Feasibility Study. Nevertheless, Valley Water is continuing to work with the cities of Palo Alto, Mountain View and Sunnyvale, along with the National Aeronautics and Space Administration's (NASA) Ames Research, United States Fish and Wildlife Service, California State Coastal Conservancy (SCC), Midpeninsula Regional Open Space District, and USACE. Currently Safe, Clean Water provides approximately $5 million for a portion of the local share of funding to support only planning efforts.

San Francisco Bay Shoreline Protection – Urban area of North San José/Alviso/San José-Santa Clara Regional Wastewater Facility (EIA 11)

Schedule: Moderate confidence

The USACE continues to advance the schedule. Reach 1, 2 and 3 solicitation did occur in December 2019, however, bids came in over the acceptable USACE threshold and had to be rejected. This has resulted in a one-year delay to the start of the Reach 1 construction. The USACE and non-federal sponsors will work to explore ways to lower the bids. Also, coordination with the UPRR also continues to progress but slowly. It is anticipated the schedule will continue to experience challenges and for this reason the schedule confidence level is moderate.

Funding: High confidence

KPI #2 is to provide the local cost share of design and partial construction; however, it is not sufficient to cover the total local cost share of design and construction for EIA 11 ($177 million of which $45 million is Valley Water's local cost share and $58 million is the SCC local cost share, which must be paid back to the USACE in a timely manner). Valley Water has secured a total of $15 million from Safe, Clean Water for this KPI, and $61 million from the San Francisco Bay Restoration Authority Measure AA funds towards the total local cost share. Valley Water will continue to work with SCC to seek funds from other sources and grants. In FY20, Valley Water fully expended the $15 million for this KPI.

Permits: Moderate confidence

Valley Water's confidence regarding permits is moderate due to complexities of receiving permits. The project partners continue to collaborate with the San Francisco Bay RWQCB and BCDC and have successfully received the required regulatory permits to construct Reach 1, 2, and 3 of EIA 11. Collaboration will continue through 2021 to negotiate permits for Reaches 4 and 5.

Jurisdictional Complexity: Moderate confidence

The confidence level is moderate due to the complexity involved in working with the City of San José (moderate), County Parks (moderate), US Fish and Wildlife Service (moderate), the San José-Santa Clara Regional Wastewater Facility (moderate) and the Union Pacific Railroad (low). All parties involve challenging, lengthy discussion to obtain the necessary rights-of-way for this project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Upper Guadalupe River Reach 12.

ADJUSTED

Project E8 FY20 Highlights

- For Reach 6, Completed the design for the gravel augmentation project, Aquatic Habitat Improvement Project in April 2020.
- USACE received funding to perform a General Re-evaluation, a study to re-evaluate the project to make it more competitive for federal funding. The three-year study is estimated to begin in October 2020.

Project E8

Upper Guadalupe River Flood Protection Highway 280 to Blossom Hill Road – San José

Preferred project: A federal-state-local partnership

This federally authorized project continues a Clean, Safe Creeks project in partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct improvements along 5.5 miles of channel extending from Interstate 280 to Blossom Hill Road. Improvements include channel widening, construction of floodwalls and levees, replacement of road crossings and planting of streamside vegetation. Reducing flood frequency and bank erosion will improve water quality, while planned mitigation measures will give fish access to an additional 12 miles of habitat within and upstream of the project reach.

Flooding History and Project Background

Damaging flood events occurred in 1982, 1983, 1986, 1995 and 1998. Severe flooding in 1995 damaged more than 150 homes in the Gardner, Willow Glen, and South San José residential districts, and shut down Highway 87 and the parallel light rail line – both major commuter thoroughfares. Freeway and light rail flooding occurred again in 1998.

The Upper Guadalupe River Flood Protection project was authorized construction by the USACE in 1999 and received local funding in 2000, followed by the start of construction in 2008. Fish passage, erosion protection and other components were constructed earlier.

To increase the level of flood protection while keeping the preferred project viable, the local-only plan funded by Clean, Safe Creeks was modified by Valley Water Board in March 2012 to provide a basis to advance the full federal project as soon as funds become available. The plan is now to acquire all necessary rights-of-way and relocate bridges and utilities in preparation for the full, preferred project. The modified plan also includes design and construction for both Reach 6 (Interstate 280 to the Union Pacific Railroad crossing) and Reach 12 (Branham Lane to Blossom Hill Road).

Benefits

- Preferred project will construct 1% (or 100-year) flood conveyance capacity for 5.5 miles of channel in San José, protecting approximately 6,280 homes, 320 businesses and 10 schools/institutions
- Local funding only constructs improvements to 4,100 linear feet to convey 1% flow

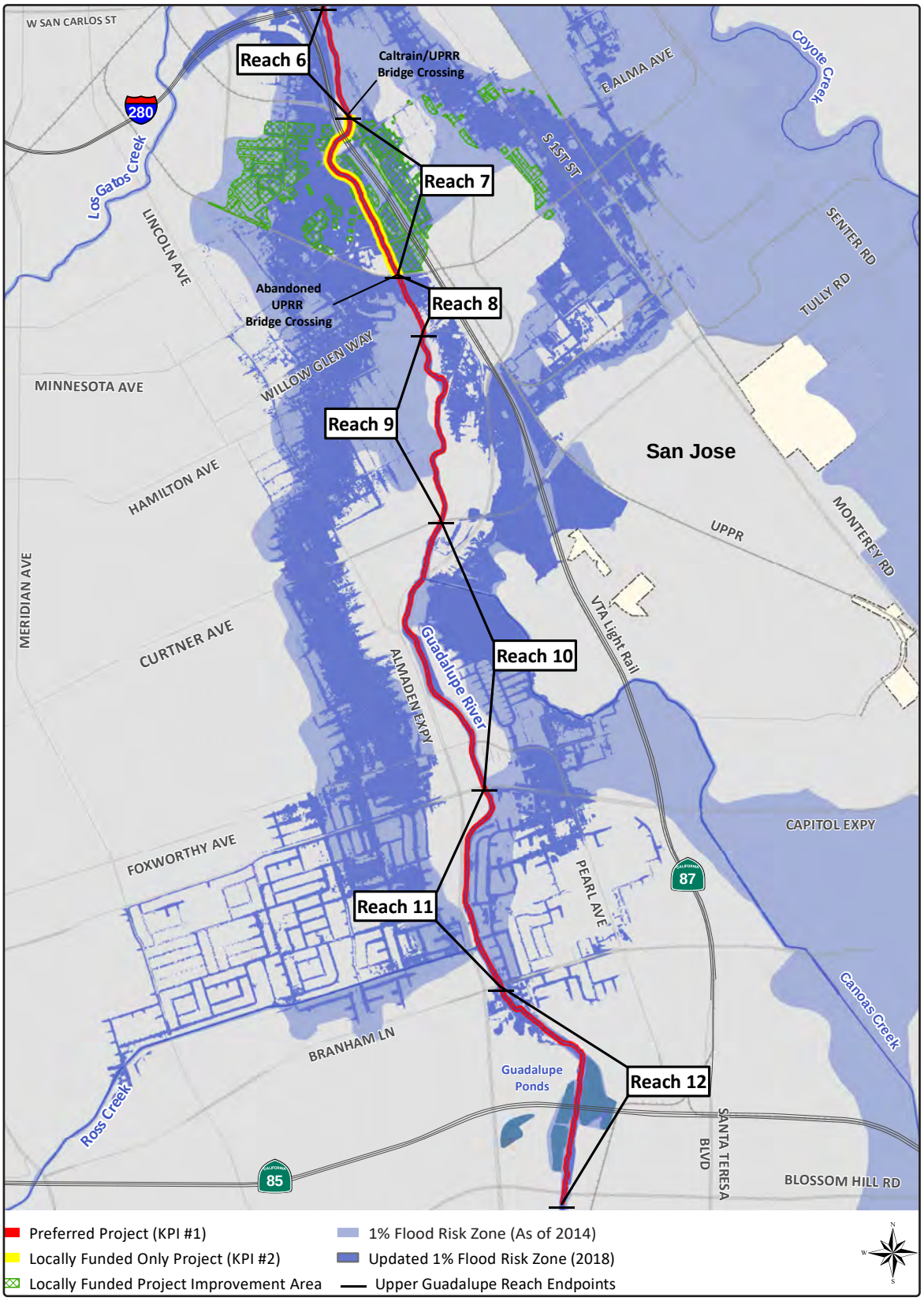
- Improves stream habitat values and fisheries
- Improves stream water quality
- Allows for creekside trail access

Key Performance Indicators (15-year Program)

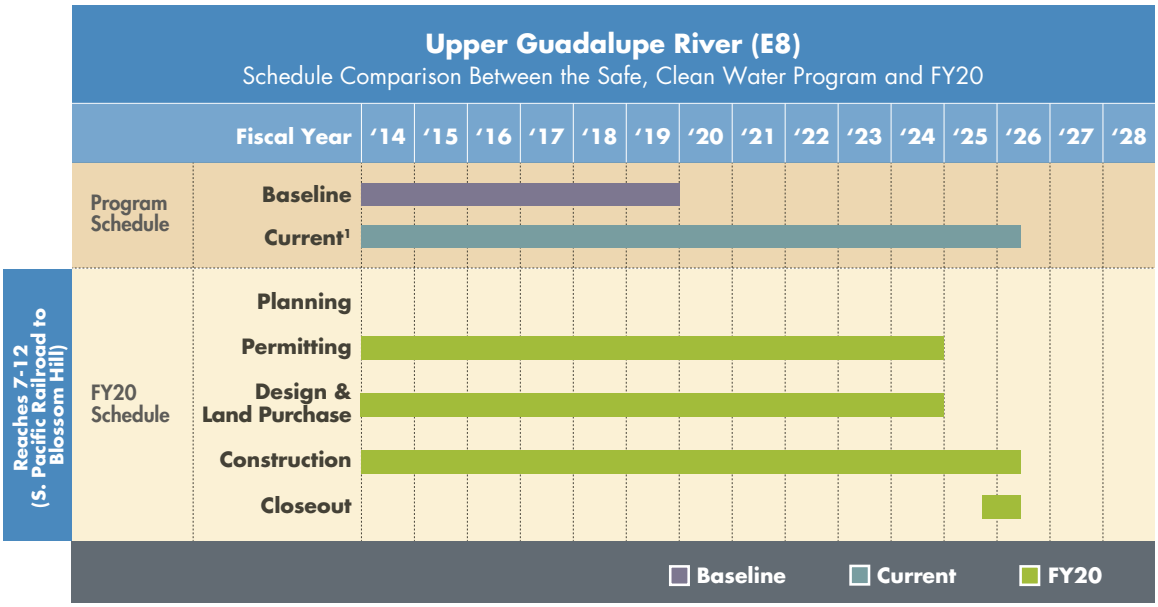
1. Preferred project with federal and local funding: Construct a flood protection project to provide 1% flood protection to 6,280 homes, 320 businesses and 10 schools and institutions.
2. With local funding only: Construct flood protection improvements along 4,100 feet of Guadalupe River between Southern Pacific Railroad (SPRR) crossing, downstream of Willow Street, to Union Pacific Railroad (UPRR) crossing, downstream of Padres Drive. Flood damage will be reduced; however, protection from the 1% flood is not provided until completion of the entire Upper Guadalupe River Project.

Geographic Area of Benefit: San José

Project Location



Schedule



[1] Board approved a schedule adjustment through the change control process in FY16 & FY20.

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ADJUSTED
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

While the locally funded project requires Valley Water to only construct flood protection improvements along Reach 7, Valley Water has used local funding under the Safe, Clean Water Program (and the preceding Clean, Safe Creeks Program) to complete Reaches 6, 10B and 12 and move the project forward. For more details, see Opportunities and Challenges segment.

Progress on KPI #1 and #2 (combined):

Reach 6 (from Interstate 280 to the UPRR bridge crossing downstream of Willow Street)

- Valley Water completed the design for the gravel augmentation project (Aquatic Habitat Improvement Project) in April 2020. In FY20, Valley Water deferred construction of the gravel augmentation to improve fish habitat in Reach 6 to summer 2021 due to the impacts of COVID-19 pandemic. Valley Water expects to receive permits by fall 2020 and to advertise and award construction of the gravel augmentation project in summer 2021.

Reaches 7 to 12 (from the UPRR bridge crossing downstream of Willow Street to Blossom Hill Road)

- Reach 7, stretching from UPRR bridge crossing downstream of Willow Street to the abandoned UPRR bridge upstream of Alma Avenue, is a local-only funded project. Valley Water has adequate local funding to complete this reach. Furthermore, Reaches 6,10B and 12 of the project were completed in 2015.
- Since FY15, lack of federal funding has stalled the design and construction of the flood protection elements of Reaches 7-11 (excluding Reach 10B). USACE has completed 65% design documentation for Reaches 7 and 8 and has been waiting for federal dollars to complete the design and begin construction. In FY20, USACE received funding to perform a General Re-evaluation, a study to re-evaluate the scope of the project and the associated benefits and costs that can help make the project more competitive for federal funding. The General Re-evaluation study is estimated to begin in October 2020 and take approximately three (3) years to complete. A new project schedule will be developed following the completion of the General Re-evaluation.

Financial Information

In FY20, 4% of the annual project budget was expended.

Reach 6 (I-280 to Southern Pacific Railroad) project (KPIs #1 and #2) expended 24% of its FY20 budget. The under-expenditure was because construction of the gravel augmentation project to improve fish habitat was deferred to the summer of 2021 due to COVID-19 related impacts.

Reaches 7-12 (Southern Pacific Railroad to Blossom Hill Road) project (KPIs #1 and #2) expended 3% of its FY20 budget. The under-expenditure in FY20 was a result of the lack of funding that has halted progress on design and construction. Valley Water and the USACE worked together to move forward with the General Re-evaluation study that received $1.5 million in federal funding.

Financial Summary ($ Thousands)
E8. Upper Guadalupe River

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26154002 Reach 6 (I-280 to S. Pacific Railroad)	$87	$1,163	$1,250	$300	$0	$300	24%	$7,627	31%
26154003 Reaches 7-12 (S. Pacific Railroad to Blossom Hill)	$0	$23,907	$23,907	$645	$24	$670	3%	$89,987	39%
Total	**$88**	**$25,070**	**$25,157**	**$945**	**$24**	**$920**	**4%**	**$97,614**	**38%**

Opportunities and Challenges

Schedule Adjustment and Lack of Federal Funding

On June 23, 2020, the Board approved schedule adjustment for this project, extending the local-funding only project (KPI #2) completion date to FY26.

Since FY15, lack of federal funding has stalled design and construction on the federal flood protection elements of the preferred project (KPI #1), comprising Reaches 7 to 11 (excluding 10B). Reaches 10B and 12, which are the mitigation elements of the project, were completed in 2015 and Valley Water contributed local funding to complete these reaches. In FY20, Valley Water deferred construction of the gravel augmentation to improve fish habitat in Reach 6 to summer of 2021 due to COVID-19 related impacts.

Reach 7, stretching from the UPRR bridge crossing downstream of Willow Street to the abandoned UPRR bridge upstream of Alma Avenue, is the local-funding only project (KPI #2) and Valley Water has adequate local funding to construct the project.

Meanwhile, due to the lack of federal funding, USACE has been focused on updating the total project costs to determine a path for future federal funding. In FY20, USACE received funding to perform a General Re-evaluation, a study to re-evaluate the scope of the project and the associated benefits and costs that can help make the project more competitive for federal funding. The General Re-evaluation study is estimated to begin in October 2020 and take approximately three (3) years to complete.

A new preferred project (KPI #1) schedule will be developed following the completion of the General Re-evaluation study. If Valley Water were to assume the responsibility of continuing the design of the local-funding only project (Reach 7) in FY21, construction of the reach is estimated to be completed by FY26.

Confidence Levels

Reach 6 (I-280 to S. Pacific Railroad) Project

Schedule: Moderate confidence

The schedule could be affected due to challenges in obtaining the regulatory permits.

Funding: High confidence

This project is fully funded by the Safe, Clean Water Program.

Permits: Moderate confidence

Valley Water is working on acquiring state and federal regulatory permits for the Reach 6 gravel augmentation project.

Jurisdictional Complexity: High confidence

Valley Water has jurisdiction over this reach and all the design elements.

Reaches 7-12 (S. Pacific Railroad to Blossom Hill) Project

Schedule: Low confidence

The schedule has been affected due to USACE not receiving federal funding over the last five (5) years, which has delayed design and construction efforts for Reaches 7 & 8.

Funding: Low confidence

Federal funding appropriation continues to be the main challenge for this project. The project did receive federal funds in FY20 for General Re-evaluation of all elements of Reaches 7 to 12. The USACE will be evaluating the entire project to determine the preferred scope of work. Valley Water will need to continue working with USACE leadership and federal elected officials to encourage federal appropriations for the design and construction of the remaining reaches of the project.

Permits: Moderate confidence

USACE will acquire all the required permits once the General Re-evaluation is concluded and a path forward for the project is determined.

Jurisdictional Complexity: Low confidence

As a local sponsor, Valley Water is responsible for acquiring all the right-of-way and relocation of utilities. Even after Valley Water acquires easements or joint-use agreements for the project from Caltrans, the Joint Power Board/Caltrain and the City of San José, these agencies will continue to have jurisdiction over the Upper Guadalupe Flood Protection Project. Cooperation between the City of San José and the Joint Power Board/Caltrain has been satisfactory. Valley Water and City of San José were able to complete the purchase of right-of-way for the Willow Street and Alma Avenue bridge extension elements of the project. The Joint Power Board/Caltrain has been coordinating with Valley Water for their railroad bridge replacement project just upstream of Reach 6.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects

On November 6, 2012, voters approved the Safe, Clean Water Program as a countywide special parcel tax for 15 years with a sunset date of June 30, 2028. This program replaced the Clean, Safe Creeks and Natural Flood Protection Plan, which voters approved in November 2000.

The following projects below were carried forward and fully transitioned into the Safe, Clean Water Program. The financial information reported herein includes only the funds that were carried forward and the expenditures made since the onset of the Safe, Clean Water Program.

Permanente Creek Flood Protection
San Francisco Bay to Foothill Expressway – Mountain View

Sunnyvale East and Sunnyvale West Channels Flood Protection
San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

Berryessa Creek Flood Protection
Calaveras Boulevard to Interstate 680 – Milpitas and San José

Coyote Creek Flood Protection
Montague Expressway to Tully Road – San José

Calabazas Creek Flood Protection
Miller Avenue to Wardell Road

Clean, Safe Creeks Grants Projects

McKelvey Ballpark and Detention Basin

ADJUSTED

Project FY20 Highlights

- Continued construction of the Rancho San Antonio Park Flood Detention Facility site.
- Completed the construction of McKelvey Park Flood Detention Facility in February 2020.

Permanente Creek Flood Protection

This project will provide flood protection for thousands of homes and businesses in Mountain View and Los Altos, create recreational opportunities and enhance the environment. The project spans 10.6 miles of Permanente Creek, from San Francisco Bay's southwest shoreline through Mountain View to Foothill Expressway in Los Altos. The project uses a natural flood protection approach to prevent potential flooding damages in excess of $48 million (1999 value). The project includes multiple elements: channel improvements; flood detention area and recreational improvements at City of Mountain View's McKelvey Park; and flood detention areas, recreational improvements and enhanced habitat at County of Santa Clara's Rancho San Antonio Park.

Benefits

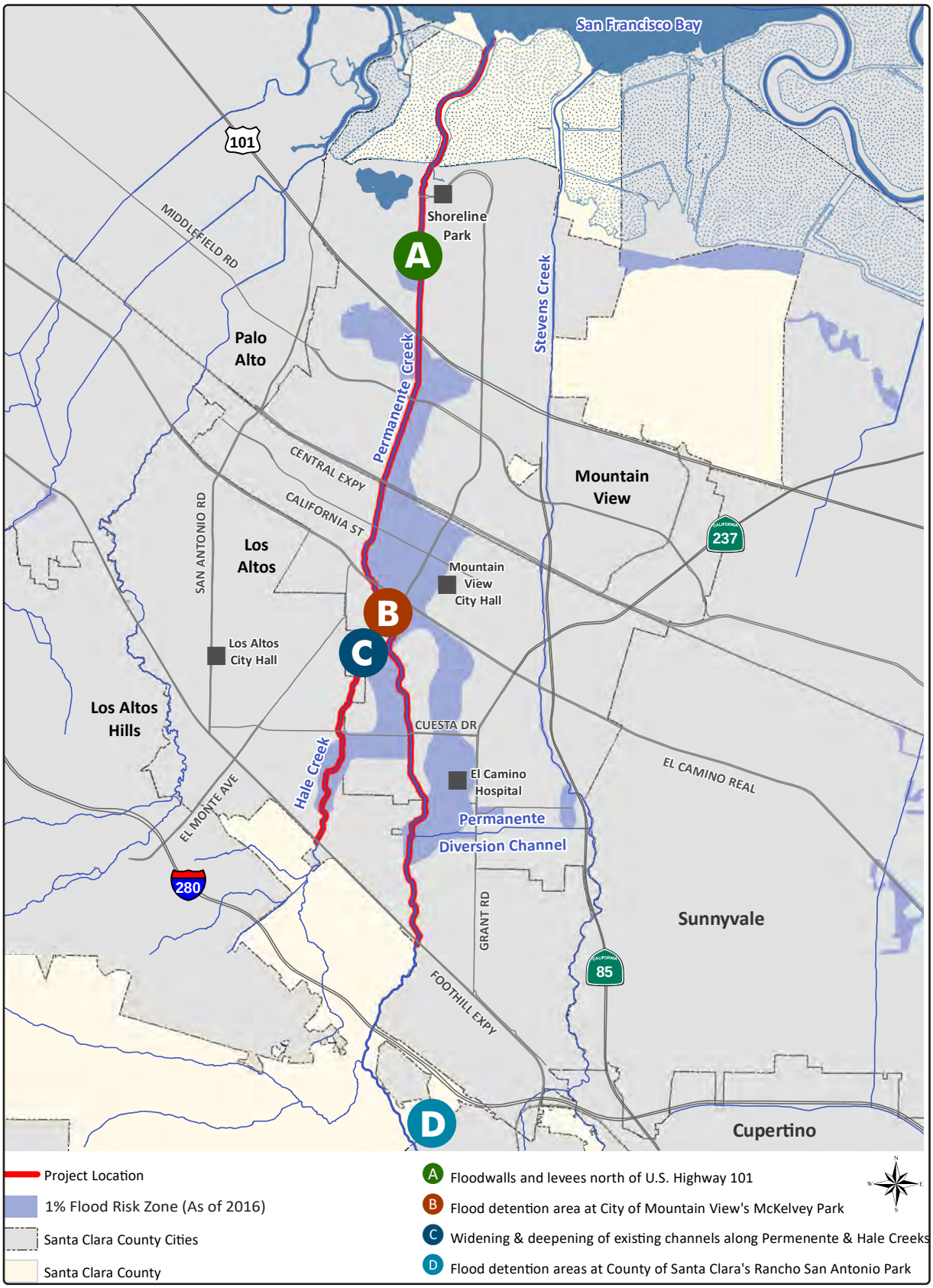
- Provides flood protection to a minimum of 1,664 parcels (1,378 homes, 160 businesses and 4 schools/institutions) downstream of El Camino Real from a 1% (or 100-year) flood
- Prevent flooding of Middlefield Road and Central Expressway
- Minimize the future cost for maintenance
- Provide opportunities for environmental enhancements and trail extension

Key Performance Indicator (5-year Implementation Plan)

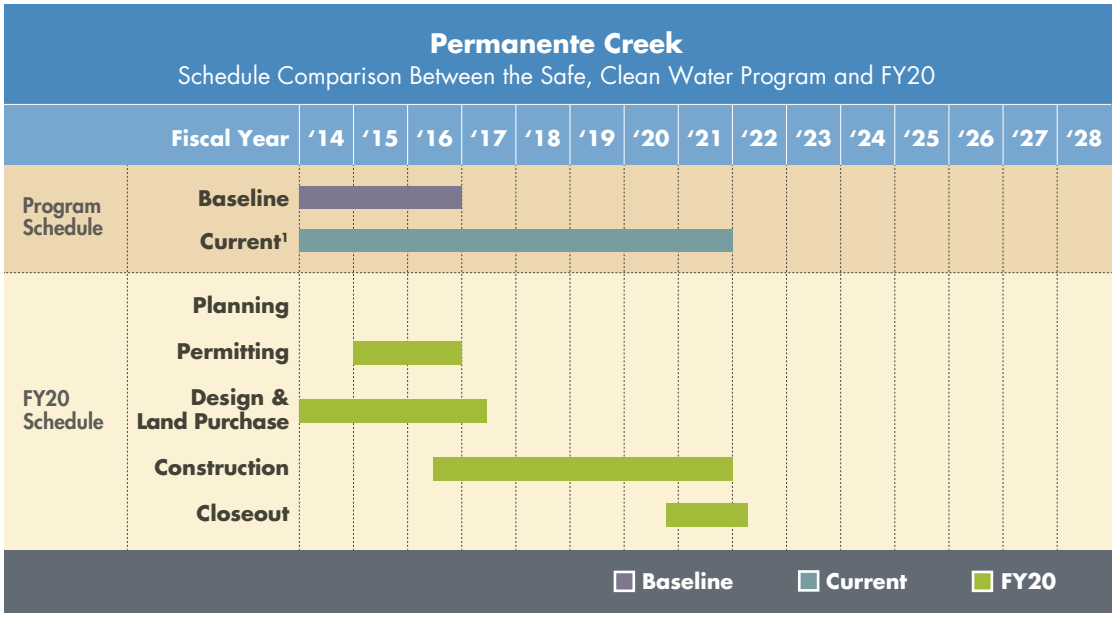
1. Provide flood protection to 1,664 parcels downstream of El Camino Real, including Middlefield Road and Central Expressway.

Geographic Area of Benefit: Mountain View and Los Altos

Project Location



Schedule



[1] Board approved a schedule adjustment through the change control process in FY16, FY19 & FY20.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ON TARGET
FY 19	ADJUSTED

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- Continued construction of the Rancho San Antonio Park Flood Detention Facility, with completion scheduled for April of 2021. Discovery of a sensitive environmental resource and its recovery has required additional time to complete construction of this project.
- Completed McKelvey Park Flood Detention Facility construction in February 2020. The final acceptance of the work occurred at the June 23, 2020 Board meeting. Channel improvements construction was completed in 2018.

Financial Information

In FY20, 75% of the annual project budget was expended.

During the year, the project budget was increased due to unanticipated costs resulting from costs associated with the discovery and recovery of a sensitive environmental resource, which delayed construction of the Rancho San Antonio Park Flood Detention Facility, and due to additional costs related to the construction of the McKelvey Park Flood Detention Facility. On November 12, 2019, the Board approved a budget adjustment for $4,700,000 to increase the construction contract contingency sums for the Rancho San Antonio Park Flood Detention Facility Project and included additional funds to cover unanticipated labor, services and supplies costs for the overall Permanente Creek Project. On June 23, 2020, the Board approved a budget adjustment for $1,682,000 to increase the McKelvey construction contract contingency sums to cover a global settlement to resolve all the claims on the project. The contractor for the McKelvey Park Flood Detention Facility construction had submitted a number of claims for additional cost to complete the project. Valley Water staff evaluated information submitted and negotiated the additional cost with the contractor.

Financial Summary ($ Thousands)
Permanente Creek Flood Protection

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$2,860	$6,693	$9,553	$3,952	$3,236	$7,188	75%	$81,706	99%

Opportunities and Challenges

Schedule Adjustment

In FY20, the Board approved a schedule adjustment for this project, extending the project completion date from FY20 to FY21. Project completion has been delayed due to the discovery and recovery of sensitive environmental resources at the Rancho San Antonio Park Flood Detention Facility site.

Confidence Levels

Schedule: High confidence

Due to the unexpected sensitive environmental resource discovery at the Rancho San Antonio Park Flood Detention Facility, construction was halted in February 2018 and resumed in June 2019. Other challenges at the Rancho San Antonio detention basin include the presence of the threatened California red-legged frogs and nesting birds at the project site. With the completion of the recovery of the sensitive environmental resources, the project is on schedule for completion by April of 2021.

Funding: High confidence

The project is fully funded by the Safe, Clean Water Program.

Permits: High confidence

The unexpected sensitive environmental resource discovery at Rancho San Antonio required the re-authorization of the USACE permit. The re-authorization of the USACE permit was received in June 2019 and construction was resumed. The project has all the required permits to complete the Project.

Jurisdictional Complexity: High confidence

The Rancho San Antonio detention basin is being constructed on Santa Clara County Parks property that is currently managed by Midpeninsula Regional Open Space District. Despite the high jurisdictional complexity, Valley Water's confidence is high due to close coordination with all the stakeholders.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Sunnyvale East and Sunnyvale West Channels Flood Protection Projects

San Francisco Bay to Inverness Way and Almanor Avenue – Sunnyvale

In the early stages of the project design process, Valley Water project team decided to join both improvement projects into a single flood protection project with a single Environmental Impact Report (EIR) to reduce construction costs and minimize construction coordination issues between the 2 channels.

The West Channel extends approximately 3 miles and upgrades existing channel capacity to provide 1% (or 100-year) riverine flood protection for 47 acres of highly valuable industrial lands, including the Onizuka Air Force Base. The East Channel extends approximately 6.4 miles and upgrades existing channel capacity to provide 1% riverine flood protection for 1,618 parcels. Both projects decrease channel turbidity and sediment by repairing erosion sites, thereby improving water quality.

Benefits

- Provides 1% flood capacity for approximately 6.5 miles of channel along Sunnyvale East and approximately 3 miles of channel along Sunnyvale West within the City of Sunnyvale, protecting 1,618 properties (Sunnyvale East) and 47 acres (11 properties) of industrial land (Sunnyvale West)
- Improves stream water quality, by providing erosion control measures to decrease sediment and turbidity
- Identifies opportunities to integrate recreation improvements with the City of Sunnyvale and others as appropriate

Key Performance Indicator (5-year Implementation Plan)

1. Provide riverine flood protection for 1,618 properties and 47 acres (11 parcels) of industrial land, while improving stream water quality and providing for recreational opportunities.

Geographic Area of Benefit: Sunnyvale

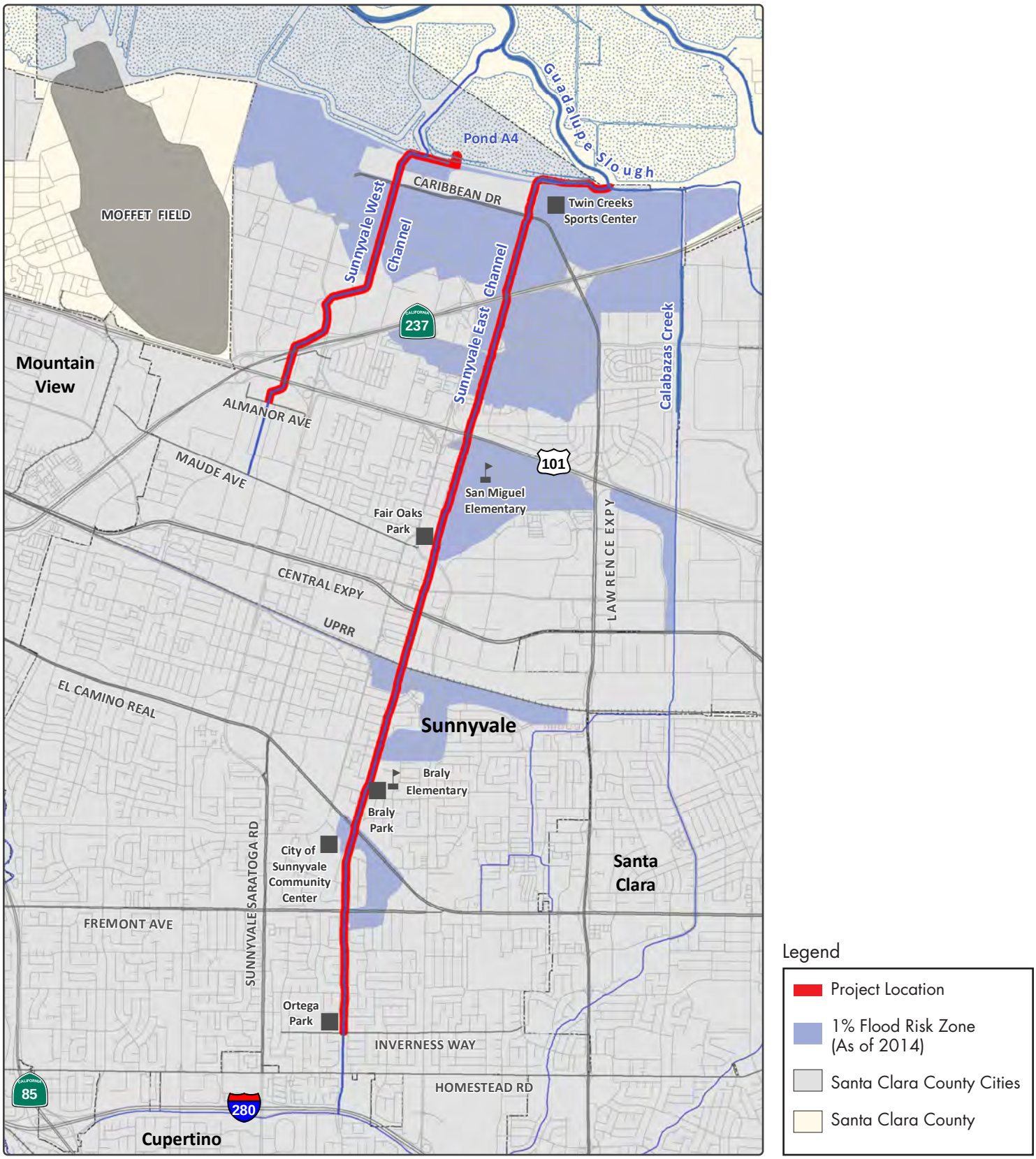
Southern view of the Sunnyvale East Channel.

ADJUSTED

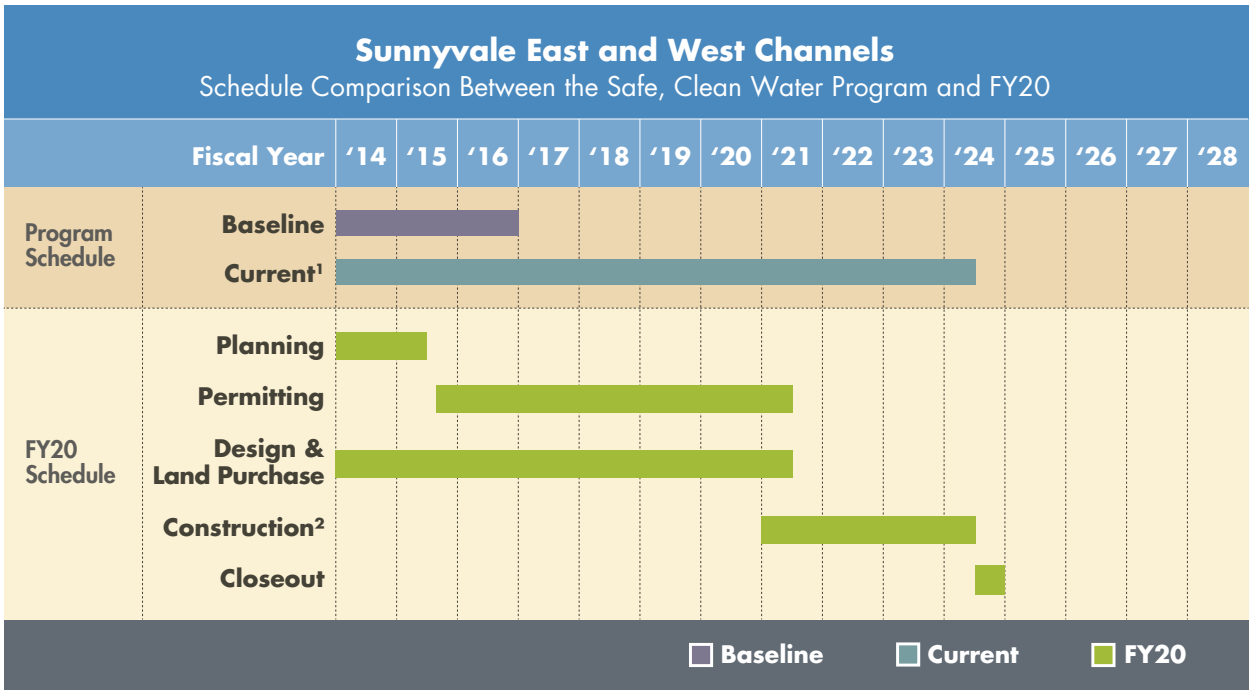
Project FY20 Highlights

- Continued work on the 100% design, which is expected to be completed by December 2020.
- Continued work on acquiring a parcel or leasing agreement from the adjacent properties owner for construction staging, as well as temporary construction easements.
- The City of Sunnyvale certified the Final Environmental Impact Report (FEIR) for Google's Caribbean Campus Project in May 2020.

Project Location



Schedule



[1] Board approved schedule adjustments through the change control process in FY16, FY18, & FY20.
[2] Construction also includes a 3-year revegetation establishment period, not shown.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ADJUSTED
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	ADJUSTED
FY 19	ADJUSTED

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- Final design is underway and is expected to be completed by December 2020 when the City of Sunnyvale and Resource Agency permit comments are incorporated.
- To date, five (5) permanent rights-of-way and four (4) temporary staging area easements, all necessary for project construction, have been acquired. Valley Water continues to work on acquiring a parcel or leasing agreement from the adjacent properties owner for temporary construction staging, as well as temporary construction easements from Santa Clara County and San Francisco Public Utilities Commission (SFPUC). All leasing agreement acquisitions are anticipated to be final by December 2020.

- Valley Water submitted all required permit applications in June 2017 to the various state and federal regulatory agencies, and is currently in negotiations with these agencies to acquire the necessary permits. These activities are expected to be finalized by December 2020, which would allow project construction to begin in 2021 and be complete in 2023.
- On April 24, 2018, Valley Water's Board of Directors approved a Memorandum of Understanding (MOU) with Google, LLC (Google) to form a partnership. Subsequently, a cost-sharing agreement with Google will be negotiated after Google has complied with California Environmental Quality Act (CEQA) requirements for their proposed project alterations. The City of Sunnyvale is acting as the lead agency for CEQA for these proposed alterations. Google has acquired property on both sides of a segment of the Sunnyvale West Channel upstream of Caribbean Drive. Google is proposing a design change along approximately 1,100 linear feet of the Sunnyvale West Channel as part of its proposed site development for the Google Caribbean Campus Project to construct a wider channel with in-channel mitigation opportunities by constructing larger setback levees without floodwalls. This would enhance public access and possibly accelerate receipt of regulatory permits, while maintaining Valley Water's project objectives. Valley Water's project has been delayed due to the additional time needed to incorporate potential design changes as a result of the Google MOU and continuing negotiations with the various regulatory agencies.

Financial Information

In FY20 10% of the annual project budget was expended.

The budget included funding for construction. However, due to delays in determining suitable and appropriate project mitigation to address comments by the various Resource agencies per their review of the permit applications, on-going negotiations with the various Resource Agencies to secure permits and incorporating the design changes proposed by Google, the start of construction has been delayed and these funds were not utilized.

Financial Summary ($ Thousands)
Sunnyvale East & West Channels Flood Protection

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$4,441	$3,721	$8,162	$841	$0	$841	10%	$60,444	15%

Opportunities and Challenges

Schedule adjustment

In FY20, the Board approved a schedule adjustment for this project, extending the project completion date to FY24. The schedule adjustment was required because of the Valley Water-Google partnership along a portion of the existing Sunnyvale West Channel, and continuing negotiations with the various regulatory agencies regarding permit acquisition. The City of Sunnyvale certified the Final Environmental Impact Report (FEIR) for the Google's

Caribbean Campus Project in May 2020. Subsequently, negotiations need to take place with the various regulatory agencies to secure the required permits. These activities are expected to be finalized by mid FY21 (December 2020), which would allow project construction to begin in late FY21 (June 2021) and be complete in FY24 (December 2023).

Confidence Levels

Schedule: Moderate confidence

Valley Water continues to work on acquiring the temporary rights-of-way acquisitions needed for construction and executing the necessary relocation agreements with the various utility owners. These activities are expected to be finalized in December 2020, which would allow project construction to begin in mid-2021. The design is 100% complete, with the exception of incorporation of the pending permit conditions into the construction documents. Permanent rights-of-way required for the project have been acquired.

Sunnyvale East Channel

The most significant schedule challenge is the phased construction timeline to replace the existing Caribbean Drive Bridge with a new triple reinforced concrete box (RCB) culvert and the relocate existing utilities crossings the bridge. The Caribbean Bridge currently conveys multiple utilities, including a 12-inch water and reclaimed water lines, multiple AT&T fiber optic lines and PG&E power lines. Coordination with AT&T and PG&E to relocate fiber optic lines and temporary relocate power lines are ongoing and expected to be finalized before construction begins. Valley Water had previously requested the City of Sunnyvale to consider allowing a complete closure of Caribbean Drive to avoid a two-year construction window, expensive detours, lane closure, public safety and other concerns that are involved with a partial closure. The City of Sunnyvale elected to require Valley Water to phase the construction with a partial closure of Caribbean Drive, thus requiring a two-year construction window.

Sunnyvale West Channel

The most significant schedule challenge is coordination of the Carl Road RCB culvert construction with the City of Sunnyvale Water Pollution Control Plant (WPCP). Carl Road crossing serves as the only access to portions of the WPCP outlet pond facilities and the west landfill. In addition, vital landfill gas extraction lines and city sanitary sewer vitrified clay pipe (VCP) mains cross the existing Carl Road culvert and are required to remain in service 24 hours/7 days a week. To minimize the risk of damaging the two existing VCP sewer lines during the construction of the RCB, the sewer lines will be replaced with a single 36-inch sewer line.

In addition, Valley Water continues to work and coordinate with Google on a proposed enhancement effort along 1,100 linear feet of the Sunnyvale West Channel as part of the proposed site development of Google's Caribbean Campus Project. City of Sunnyvale, as the CEQA lead agency, certified the FEIR for Google's Caribbean Campus Project in May 2020. Valley Water and Google will need to execute an Authorization Agreement (cost-sharing agreement) for this enhancement project along the West Channel.

Funding (combined): High confidence

This project is fully funded by the Safe, Clean Water Program. The potential Valley Water/Google cost-sharing agreement will have Valley Water agree to contribute to the Google project, the estimated amount Valley Water

would have spent, including the costs associated with acquiring mitigation, if Google had not proposed their project. Therefore, the Valley Water/Google cost-sharing would result in no additional construction costs for the Valley Water's project.

Permits (combined): Moderate confidence

The most significant overall challenge faced by the project is securing the necessary regulatory agency permits in a timely manner to proceed with construction. Valley Water submitted all the required permit applications in June 2017 to the various state and federal regulatory agencies, and is currently in negotiations with these agencies to acquire the necessary permits. Google has submitted their required permit applications to the required resource agencies for the enhancement portion of the West Channel. Upon receipt of the various regulatory agency permits, permit conditions and requirements will have to be incorporated into the Final Construction Documents before the project can be advertised for construction.

The Sunnyvale East and West Channels were man-made storm drain systems constructed by Valley Water in the 1950's and 1960's. Both channels have no naturally occurring headwaters, resulting in extremely limited existing channel vegetation; the project's environmental impacts are expected to be minimal. Valley Water's recent discussions with the San Francisco Bay Regional Water Quality Control Board (RWQCB) indicate there are some significant differences of opinion regarding the existing beneficial uses and overall project impacts of Sunnyvale East and West Channels. Valley Water is actively working with RWQCB to attempt to resolve these differences and reduce the project impacts to the extent possible.

Jurisdictional Complexity (combined): High confidence

The entire project is within the limits of the City of Sunnyvale. Valley Water has coordinated the planning and design efforts by forwarding to the city the 30%, 60%, 90% and 100% design submittals for review and comment. Valley Water has worked with the city to purchase the necessary project rights-of-way, including temporary staging areas. Valley Water and the city have also executed a cost sharing agreement for the construction of public trails as part of the project, and have executed a Joint Use Trail Agreement. Google and Valley Water continue to work together on the coordination of this project as well as several other Google-Valley Water projects by meeting monthly to address and coordinated the planning, design, and construction of these projects.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Completed Trestle Bridge along Upper Berryessa Creek.

COMPLETED

Project FY20 Highlights

- Valley Water and the USACE continued working on permit requirements regarding on-site mitigation and project completion from the San Francisco Bay Regional Water Quality Control Board and anticipate having them completed by winter 2020. The off-site mitigation has not yet been resolved with the Regional Water Quality Control Board.
- In FY21, the USACE plans to complete construction of a few items that were identified as needing correction at the final inspection of the construction.

Berryessa Creek Flood Protection

Calaveras Boulevard to Interstate 680

This project is a partnership with the U.S. Army Corps of Engineers (USACE) to plan, design and construct flood improvements to protect homes in Milpitas and San José, as well as Silicon Valley's commercial district, from a 1% (100-year) flood flow. The Bay Area Rapid Transit (BART) 10-mile extension project spans from Warm Springs Station in Fremont to the North San José Berryessa area. The new Milpitas Station is underground and is located in the Berryessa Creek floodplain. The Berryessa Creek project's completion is critical to the BART extension's planned operations.

Benefits

- Protects up to 1,662 businesses and homes in Milpitas and San José from a 1% flood, saving potential damages in excess of $527 million
- Provides protection for more than 30 miles of streets including Highway 237 and Montague Expressway

Key Performance Indicators (5-year Implementation Plan)

1. Local and federal funding flood damage reduction for 1,662 parcels, including 1,420 homes, 170 businesses, and 5 schools/institutions.
2. Using local funds only, a reduced project would extend from the confluence with Lower Penitencia upstream to Montague Expressway, modifying 2 miles of channel and protecting approximately 100 parcels.

Geographic Area of Benefit: Milpitas and San José

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	ON TARGET
FY 16	ADJUSTED
FY 17	ON TARGET
FY 18	COMPLETED
FY 19	COMPLETED

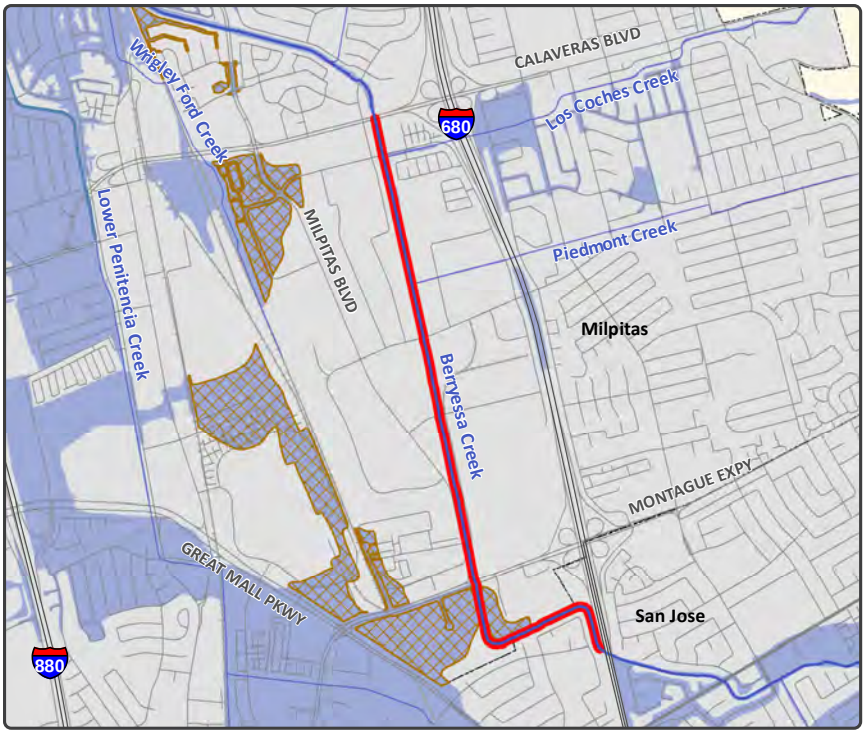
Project Status COMPLETED*

*In FY18, the project KPI was delivered and therefore the project status has been identified as completed. However, the off-site mitigation has not yet been resolved with the San Francisco Bay Regional Water Quality Control Board. As a result, there may be additional financial obligations for mitigation.

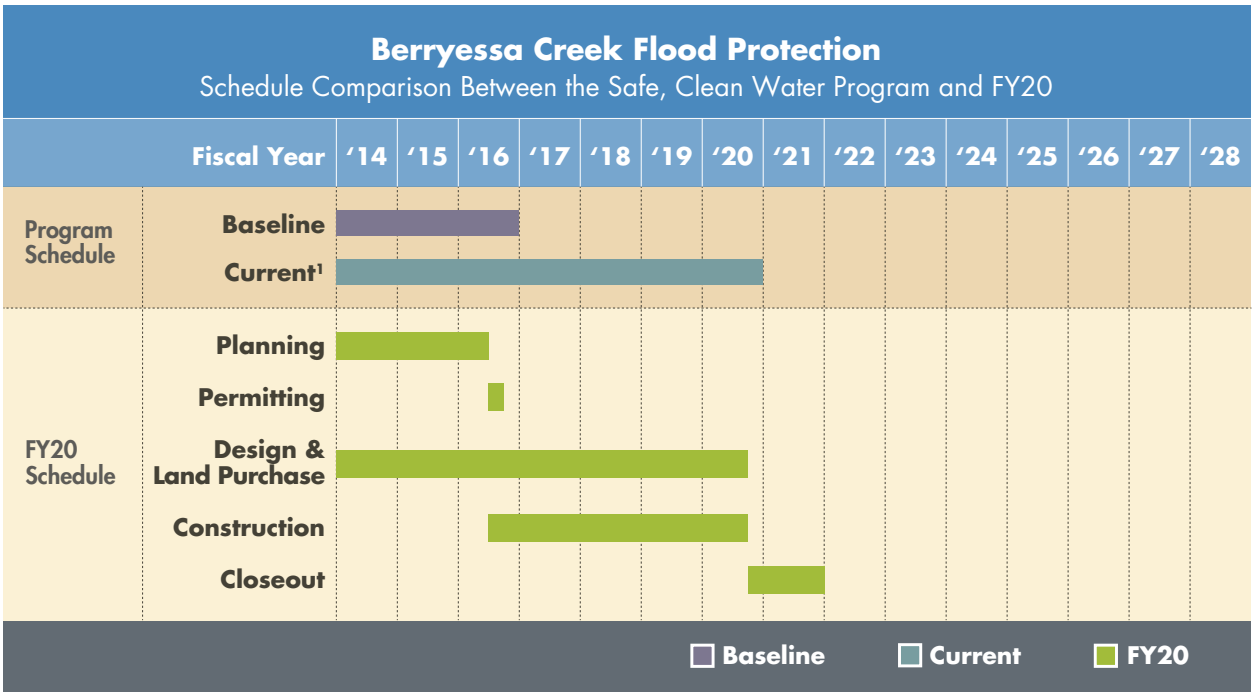
Project Location

Legend

- Project Location
- 1% Flood Risk Zone (As of 2014)
- Flood Protection Provided
- Santa Clara County
- Santa Clara County Cities



Schedule



[1] Board approved a schedule adjustment through the change control process in FY16.

Progress on KPI #1 and #2 (combined):
This project was completed in FY18 with delivery of KPI #1, which included the channel improvements and the Montague Expressway bridge replacement as the two main elements of the project. In January 2019, the USACE installed the on-site mitigation planting. In FY21, the USACE is planning to complete construction of a few items that need correction that were identified at the final inspection of the construction. In FY19 and FY20, Valley Water and the USACE continued working on permit requirements regarding on-site mitigation and project completion from the San Francisco Bay Regional Water Quality Control Board and anticipate having them completed by winter of 2020. The off-site mitigation has not been resolved yet with the Regional Water Quality Control Board.

The Corps is still working on finalizing the Operations and Maintenance (O&M) manual and anticipate this to be completed in early FY21. Valley Water plans to reconcile the project cost balance with our partner agencies by December 2020. However, finalizing cost with the USACE may not be possible in FY21 since they are planning to complete construction some corrective items for the project in FY21.

Financial Information

In FY20, 3% of the annual project budget was expended.

While KPI #1 was delivered in FY18 and the mitigation planting was completed in FY19, the project cost balance is still being finalized with the project partners and agreement obligations. Valley Water plans to finalize the project costs with its partner agencies by December 2020. This includes finalizing the costs with the USACE for the channel improvements work, and the Santa Clara Valley Transportation Authority, Santa Clara County, and City of Milpitas for the Montague Expressway bridge replacement work.

Financial Summary ($ Thousands)
Berryessa Creek Flood Protection

Fiscal Year 2019-2020								15-year Program	
Project No. and Name	Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
				Actual	Encumbrance	Total			
26174041 Design and Construction	$0	$13,126	$13,126	$414	$0	$414	3%	$17,194	92%
26174042 Real Estate Acquisitions	$1	$1,526	$1,527	$95	$0	$95	6%	$29,554	57%
Total	**$1**	**$14,652**	**$14,653**	**$509**	**$0**	**$509**	**3%**	**$46,747**	**70%**

Opportunities and Challenges

The original Clean, Safe Creeks Plan for flood protection along Berryessa Creek stretched from Lower Penitencia Creek to Old Piedmont Road, protecting 1,814 parcels. After USACE completed its benefit-to-cost assessment, it was determined that the federal criterion was not met for the reach that lies upstream of Interstate 680. The portion of the project that was constructed under the Safe, Clean Water Program is the preferred project with local and federal funding (KPI #1), as depicted by the project map. The remainder of the original Clean, Safe Creeks Plan project elements are being constructed by Valley Water with local funding only through the Watershed Stream Stewardship Fund. The portion of Berryessa Creek between Lower Penitencia Creek and Calaveras Boulevard is being constructed in 2 phases. Phase 1 was completed in December 2016 which spans between Lower Penitencia Creek and just downstream of North Abel Street. Phase 2 is under construction, which spans between North Abel Street and Calaveras Boulevard, and is anticipated to be complete by December 2020.

Construction of short-term improvements at the Rock Springs neighborhood.

ADJUSTED

Project FY20 Highlights

- USACE delivered a draft project management plan to Valley Water (May 2020).
- Advanced alternatives from conceptual to feasible.
- Identified the recommended project in spring 2020. This alternative was presented to the public in summer 2020.
- Completed Draft Planning Study Report.
- Began Design in spring 2020.
- Due to interties with Anderson Dam, aspects of the project that are needed for the Anderson Dam Tunnel Project were identified for early design and implementation.

Coyote Creek Flood Protection

Montague Expressway to Tully Road – San José

The project is located in the central portion of the Coyote Watershed and extends approximately 9 miles between Montague Expressway and Tully Road in San José.

Preferred project: A federal-state-local partnership

The primary project objective is to reduce the risk of flooding to homes, schools, businesses, and highways in the Coyote Creek floodplain for floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, and includes planning, design, and project construction. Alternative funding sources, including federal funding, state grants, and additional local funding sources, are being explored and will need to be secured for full construction of the project.

Local funding only project:

The local funding only option includes identifying short-term flood relief solutions that are permittable and do not exacerbate flooding elsewhere, with implementation to begin prior to the 2017-2018 winter season. In addition, under the local funding only option, Valley Water will complete the planning and design phases of the preferred project, and identify prioritized elements of the project for construction with the remaining local funds.

Flooding History and Project Background

Flooding has occurred many times within the Coyote Creek Watershed, including along portions of Coyote Creek in 1911, 1917, 1931, 1958, 1969, 1982, 1983, 1997, 1998, and 2017. The largest flow recorded on Coyote Creek was 25,000 cubic feet per second in 1911, prior to construction of the current 2 water-supply reservoirs in the upper watershed. The worst flooding in the project reach since Anderson Reservoir was constructed in 1950, occurred in February 2017. Coyote Creek overtopped its banks at several locations between Montague Expressway and Tully Road. Businesses and hundreds of homes were inundated by creek waters for many hours. Highway 101 near Watson Park and various local streets were closed due to flooding, and thousands of residents had to be evacuated and sheltered.

The Coyote Creek Project is located in the central portion of the Coyote Watershed on the mainstem of Coyote Creek, within the City of San José. The original project reach extended approximately 6.1 miles between Montague Expressway and Highway 280; however, the project reach was extended approximately 2.9 miles upstream to Tully Road in 2017 to include the Rock Springs neighborhood and incorporate the areas impacted by the February 21, 2017 flood event. In addition to the primary objective of reducing the risk of flooding to homes, schools, businesses, and highways from Coyote Creek flood events, the project may evaluate opportunities to improve fisheries, stream habitat values, and public access.

Benefits

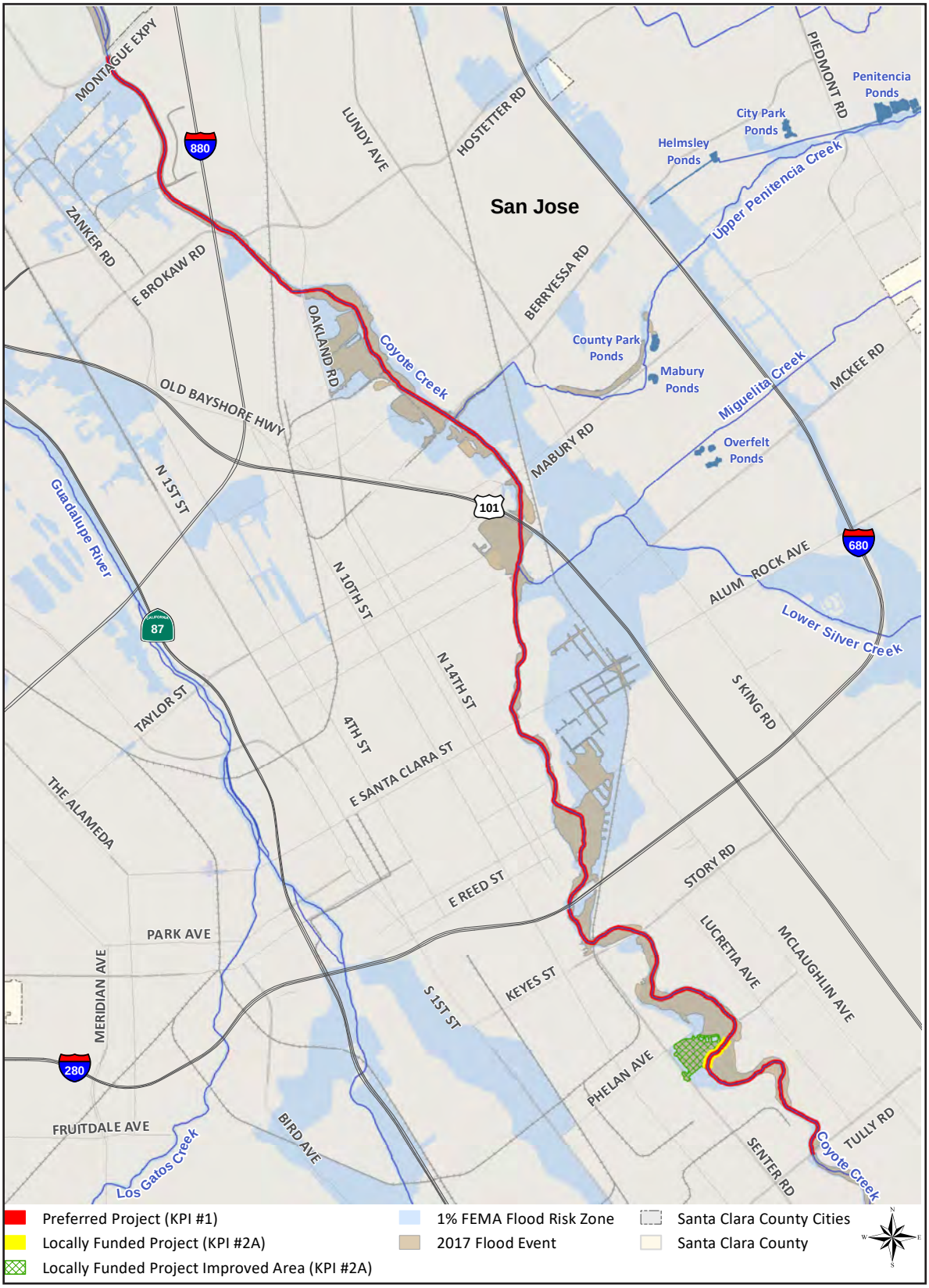
- Implements short-term flood relief solutions
- Provides flood risk reduction for approximately 1,000 parcels from the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, when the entire project from Montague Expressway to Tully Road is constructed
- Improves water quality, enhances stream habitat and provides for recreational opportunities
- Incorporates revegetation and aesthetic elements of the Coyote Creek park chain in the project

Key Performance Indicators (5-year Implementation Plan)

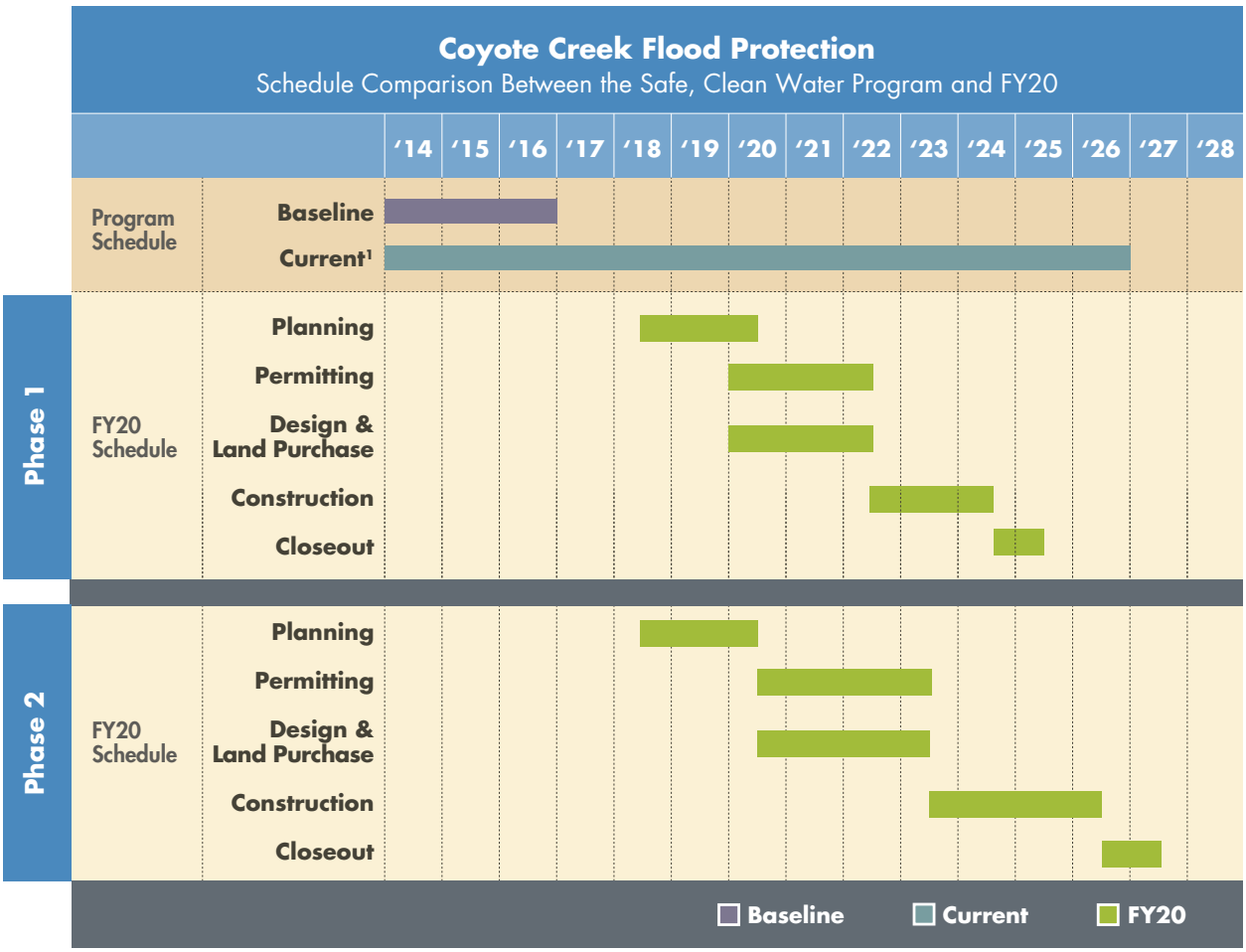
1. Preferred project with federal, state, and local funding: Secure alternative funding sources to construct a flood protection project that provides flood risk reduction from floods up to the level of flooding that occurred on February 21, 2017, approximately a 20 to 25 year flood event, between Montague Expressway and Tully Road.
2. With local funding only: (a) Identify short-term flood relief solutions and begin implementation prior to the 2017-2018 winter season; (b) Complete the planning and design phases of the preferred project; and (c) With any remaining funds, identify and construct prioritized elements of the preferred project.

Geographic Area of Benefit: San José

Project Location



Schedule



[1] Board approved a schedule adjustment through the change control process in FY16 & FY20.

Status History

Fiscal Year	Status
FY 14	ADJUSTED
FY 15	NOT ON TARGET
FY 16	ADJUSTED
FY 17	MODIFIED
FY 18	ON TARGET
FY 19	ON TARGET

Status for FY20: ADJUSTED (Schedule Adjustment)

Progress on KPI #1:

- In August 2019, Valley Water and the USACE agreed on an initial task under the Section 1126 MOA developed in 2018. This initial task was for the USACE to produce a project management plan (PMP) that provided a comprehensive description of how the USACE would go about producing a Feasibility Study to USACE standards.
- In May 2020, the USACE delivered a draft PMP to Valley Water.

Progress on KPI #2:

- In FY20, alternatives were advanced from conceptual to feasible. At each stage, public meetings were held to discuss project progress and collect input from the public.
- The feasible alternatives were ranked against each other using the Natural Flood Protection objectives.
- The recommended project was identified in spring of 2020. This alternative was presented to the public in summer of 2020.
- The project's Planning Study Report was completed at the end of FY20.
- In spring of 2020, design activities were started for the project. Because of the interties between the project and the Anderson Dam project, aspects of the project that are needed for the Anderson Dam Tunnel Project were identified for early design and implementation.

Financial Information

In FY20, 123% of the annual project budget was expended.

In December 2019, the Board voted to allocate local funding for construction of the preferred project and reallocated $23 million from Project E4: Upper Penitencia Creek Flood Protection Project to facilitate the construction of the Coyote Creek Project. However, Valley Water is also exploring additional external funding sources and partnering opportunities culminating in the completion of the Planning Study Phase during winter of 2020.

Financial Summary ($ Thousands)
Coyote Creek Flood Protection Study and Partial Construction

Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$941	$100	$1,041	$1,249	$27	$1,277	123%	$56,091	7%

Opportunities and Challenges

Schedule Adjustment

In FY20, the Board adjusted the project schedule for project construction to be completed in FY26. The schedule change was required because of the status of the project in FY20. With the planning study to be completed by the end of FY20, it will be three-and-a-half years before construction can begin. After completion of planning, it will take two years for design, followed by one-and-a-half years for environmental evaluation and regulatory permitting. As a result, construction is estimated to begin in FY24 and completed in FY26.

Some Coyote Creek Flood Protection Measures expedited as part of FERC Order Compliance Project for Anderson Reservoir and Dam

In February 2020, the Federal Energy Regulatory Commission (FERC) ordered Valley Water to immediately implement risk reduction measures to protect the public from the risk of Anderson Dam failure due to seismic activity, and develop and implement necessary avoidance, minimization and mitigation measures. Anderson Dam is situated on Coyote Creek and creates the Anderson Reservoir. In compliance with the FERC Order, Valley Water took several steps, including proposing a project described in the Anderson Dam Federal Energy Regulatory Commission Order Compliance Project (FOCP) Engineer's Report. On June 23, 2020, following a public hearing, the Board approved the Engineer's Report, which is available on Valley Water's website: http://www.valleywater.org/PublicReviewDocuments.aspx. The proposed project would:

1. allow Valley Water a way to safely, reliably and expeditiously drawdown Anderson Reservoir (Reservoir) and help to maintain the Reservoir at a required lower elevation;
2. minimize risks associated with exceeding the restricted Reservoir level with the existing outlet structure by constructing a new, low-level outlet;
3. prioritize the interim downstream protection of certain residents and property; and
4. minimize the public health and safety and environmental impacts of the Reservoir drawdown.

Valley Water has identified areas within Coyote Creek to reduce flood risk as a result of implementing the FOCP, namely from the operation of the FERC Ordered expedited construction of the Anderson Dam Tunnel Project new low-level outlet. As a result, the FOCP includes the construction of some elements of the Coyote Creek flood protection measures as avoidance and minimization measures to reduce flood risk within certain urbanized areas of Coyote Creek.

Consequently, some of the Coyote Creek Flood Protection Project elements will be expedited as part of the FOCP. These measures will be known as the FOCP Coyote Creek Flood Management Measures and consist of acquisition or elevation of up to 10 structures on nine (9) parcels, and construction of up to six (6) spans of off-stream floodwalls or levees to reduce flood risks arising from higher maximum Anderson Dam low-level outlet flows, flows from the existing outlet, and Coyote Creek inflows resulting from storm events. The FOCP Coyote Creek Flood Management Measures must be constructed by the end of 2023, or the same time as the Anderson Dam low-level outlet construction is completed. These measures will be implemented along Mid-Coyote Creek in San José, between Highway 280 and Oakland Road.

The remaining elements of the Coyote Creek Flood Protection project will be known as the non-FOCP flood management elements and will cover the construction of flood protection elements necessary to handle similar flows as the 2017 flood event. The non-FOCP flood management elements will need to be constructed by fall 2025, the same time as the completion of the Anderson Dam high-level outlet.

Funding Opportunities

There are many funding opportunities that are being evaluated for the Coyote Creek project. Alternative funding sources, including federal funding state grants, and additional local funding sources, are being explored and may need to be secured for full construction of the project.

Construction Schedule Challenge

An important challenge is that the Coyote Creek project needs to be implemented by fall of 2025, or the same time as the completion of the Anderson Dam high-level outlet. This allows approximately four years for the project to be designed and constructed, which is an ambitious target for a large and complicated project.

Confidence Levels

Schedule: Medium confidence

Based on the expedited adjusted schedule with a target completion date of FY25, Valley Water should be able to complete the local funding only option (KPI #2) given successful permitting.

Funding: Moderate confidence

Initially, the Safe, Clean Water Program fully funded the "local funding only" project's planning and design phases and identification of prioritized elements of the project for construction. In FY20, the Board voted to fund the preferred project with local dollars and reallocated to the project $23 million from Project E4. However, completion of the preferred project may require further additional funding. Valley Water is exploring alternative funding sources, including federal funding, state grants and other local funding sources.

Permits: Moderate confidence

The preferred project has been designed to minimally impact creek resources, with almost all elements outside the creek banks, to minimize permitting needs.

Jurisdictional Complexity: High confidence

All local agencies, the City of San José and County of Santa Clara, are fully cooperating due to the significance of the need for the project.

See *Appendix D: Capital Projects Jurisdictional Complexities* for a list of confidence levels for each project by outside agency for funding, regulatory permitting, cities, counties and other agencies.

Project completion celebration.

COMPLETED

Project FY14 Highlights

- Provided flood damage reduction for 2,483 parcels that included: 2,270 homes, 90 businesses, and 7 schools/institutions.

Calabazas Creek Flood Protection

Miller Avenue to Wardell Road

The project's objective was to provide 1% (or 100-year) flood protection to 2,483 parcels in the Calabazas Creek watershed between Miller Avenue and Wardell Road. A long detention basin parallel to the creek was built to capture high storm flows, preventing the creek from overtopping its banks in a 1% flood.

Valley Water repaired 14 severely eroding banks, using as little "hardscape" as possible. The project incorporated environmental stewardship principles to reduce erosion with vegetation to enhance habitat for wildlife. Valley Water reduced the cost of the project by collaborating with the City of San José, which rebuilt a bicycle motocross (BMX) park at Calabazas Park.

On November 20, 2012, Valley Water and the cities of Saratoga, San José, and Cupertino received notification from the Federal Emergency Management Agency (FEMA) that the Letter of Map Revision (LOMR) submittal for the Calabazas Creek Flood Protection Project had been approved resulting in a revision of the Flood Insurance Rate Map for the requested area upstream of Miller Avenue. The project objectives have been met.

Benefits

- Provide flood protection on Calabazas Creek from Miller Avenue to Wardell Road
- Protect 2,483 parcels from 1% flooding
- Provide erosion protection measures to improve stream quality
- Identify environmental restoration and enhancement and recreational enhancements, where opportunities exist

Key Performance Indicator (Completed)

1. Flood damage reduction for 2,483 parcels that include: 2,270 homes, 90 businesses, and 7 schools/institutions.

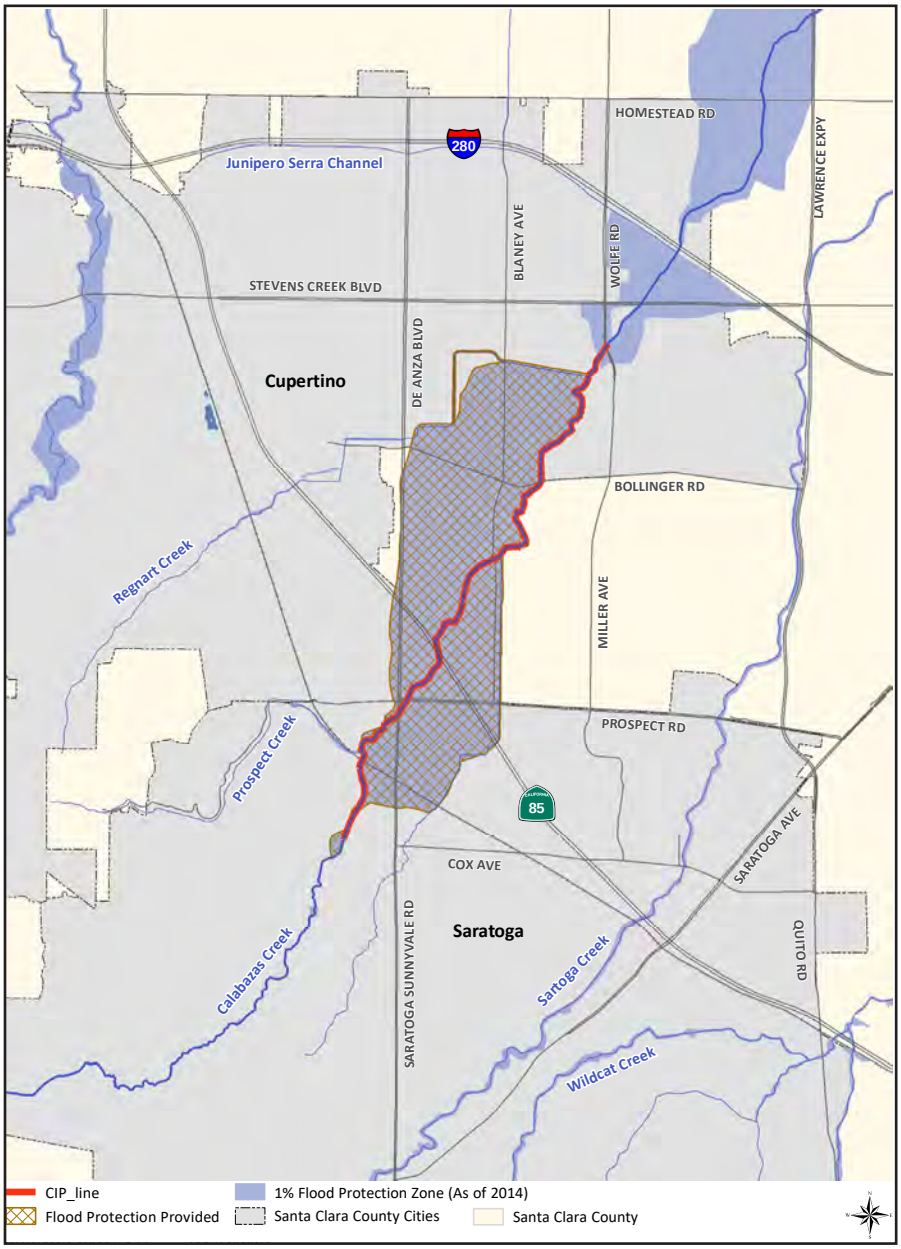
Geographic Area of Benefit: Saratoga, San José and Cupertino

Project Status: COMPLETED

Status History

Fiscal Year	Status
FY 14	COMPLETED
FY 15	COMPLETED
FY 16	COMPLETED
FY 17	COMPLETED
FY 18	COMPLETED
FY 19	COMPLETED

Project Location



Penitencia Creek Trail

COMPLETED

Project FY20 Highlights

- Completed provding public access to 70 miles of open space or trails along creeks.
- 44 of the 46 Clean Safe Creeks (CSC) grant projects have been closed.
- Of the remaining two (2) open projects, one (1) project was completed and expected to close in early FY21.
- The other project is in progress and requested a no-cost, time extension to March 2021.

Clean, Safe Creeks Grants Projects

The Clean, Safe Creeks (CSC) Program awarded grants in 3 categories to encourage community involvement in protecting and enhancing the environment. Valley Water awarded grants for 45 projects under the Clean, Safe Creeks Program between FY10 and FY13. As reported in the FY13 Clean, Safe Creeks report, all KPIs have been met as per the executed agreements. However, some grant projects have yet to be completed.

Benefits

These grant agreements address:

- CSC Outcome 2.1: Pollution prevention
- CSC Outcome 3.2: Healthy creek and bay ecosystems are protected, enhanced or restored as determined appropriate by the Board
- CSC Outcome 4.1: There are additional open spaces, trails and parks along creeks and in the watersheds when reasonable and appropriate

Key Performance Indicators (5-year Implementation Plan)

1. CSC 2.1: Reduce urban runoff pollutants in south county cities.
2. CSC 3.2: Creation of additional wetlands, riparian habitat and favorable stream conditions for fisheries and wildlife. (Equivalent of 100 acres of tidal or riparian habitat created or restored).
3. CSC 4.1: Community partnership to identify and provide public access to 70 miles of open space or trails along creeks.

Geographic Area of Benefit: Countywide

Status History

Fiscal Year	Status
FY 14	ON TARGET
FY 15	ON TARGET
FY 16	ON TARGET
FY 17	ON TARGET
FY 18	ADJUSTED
FY 19	ADJUSTED

Status for FY20: COMPLETED

Progress on KPI #1 - #3 (combined):

As of the end of FY20, 44 of the 46 Clean, Safe Creeks (CSC) grant projects have been closed. Of the remaining two (2) open projects, one (1) project, the City of Gilroy's Ronan Channel Trail – Interim Project, Phase 1, was completed and is expected to close in early FY21. The other project, the City of San Jose's Three Creeks Trail – Trestle and Interim Improvements, is in progress and the City has requested a no-cost, time extension to March 2021. The interim trail improvements were completed and the pedestrian bridge work remains.

With the completion of the City of Gilroy's Ronan Channel Trail project and the completion of the interim trail improvements work as part of the City of San Jose's Three Creeks Trail project, Valley Water has achieved CSC KPI 4.1 of providing a community partnership to identify and provide public access to 70 miles of open space or trails along creeks. Therefore, the Clean, Safe Creeks Grants Projects is deemed completed in FY20.

Valley Water will continue to report the progress and completion of the City of San Jose's Three Creeks Trail project. The list of projects and status is included in the Clean, Safe Creeks (CSC) Grant Table below.

Closed: Project completed – Final project report provided and invoice paid.

Completed*: Project completed – Final project report and invoice pending.

In-Progress: Project on schedule for completion by end date.

Cancelled: Project cancelled by grantee.

Extended: Project schedule or scope is being amended.

CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
1	City of Saratoga	Village Creek Trail Planning	$39,000	7/1/2011	7/25/2015	Closed
2	Acterra	Adobe Creek Restoration: Redwood Grove to Shoup Park	$46,365	6/28/2011	12/30/2015	Closed
3	City of Cupertino	Stevens Creek Corridor Park and Restoration Project, Phase 2	$285,000	6/28/2011	12/30/2015	Closed
4	City of Cupertino	Stevens Creek Corridor Park and Restoration, Phase 2	$565,000	6/28/2011	12/30/2015	Closed
5	City of San José	Penitencia Creek Trail, Reach 1	$300,000	6/15/2010	12/30/2017	Closed
6	City of San José	Three Creeks Trail – Trestle and Interim Improvements	$450,000	6/28/2011	03/20/2020	In Progress
7	City of Santa Clara-Parks & Recreation Department	City of Santa Clara – Ulistac Natural Area Environmental Enhancement	$106,976	6/28/2011	12/30/2015	Closed

CSC Grant Table

No.	Grantee Organization	Project Name	Grant Amount Total	Project Start Date	Project End Date	Status
8	City of Saratoga	Village Creek Trail, Phase 1	$27,000	6/28/2011	12/30/2015	Cancelled
9	SCVWD with: CA Wildlife Fndn, S.F. Estuary Invasive Spartina	Invasive Spartina Monitoring & Control in South Bay Marshes & Creeks	$75,000	6/28/2011	12/30/2015	Closed
10	Town of Los Altos Hills	Adobe Creek Restoration Project at Edith Park	$83,960	9/27/2011	12/30/2015	Closed
11	Town of Los Gatos	Creekside Sports Park Pedestrian Bridge	$300,000	6/28/2011	12/30/2015	Cancelled
12	Trout Unlimited	Little Arthur Creek Streamflow Stewardship Implementation Project	$220,500	6/28/2011		Completed
13	West Valley College	Tennis Court Wetland Enhancement Project	$109,000	6/28/2011	12/30/2015	Closed
14	West Valley College	Vasona Creek Enhancement Project: Bridge #3 Replacement and Channel Stabilization	$200,000	6/28/2011	12/30/2015	Closed
15	West Valley College	Vasona Creek Native Vegetation Enhancement Project	$180,000	6/28/2011	12/30/2015	Closed
16	Acterra	San Francisquito Creek	$80,000	10/19/2013	6/30/2016	Closed
17	City of Gilroy	Ronan Channel Trail – Interim Project, Phase 1	$190,000	1/29/2014	12/31/2019	In Progress
18	City of Los Altos	Adobe Creek Restoration at Redwood Grove – Phase 2	$90,000	12/27/2013	6/30/2016	Closed
19	City of San José	Los Alamitos Creek – Coleman Road Under-Crossing	$62,727	1/8/2014	12/31/2017	Closed
20	Downtown Streets Team	Coyote Creek Encampment Cleanup	$197,848	1/8/2014	6/30/2016	Closed
21	Save the Bay	Palo Alto Baylands Tidal Marsh Transition Zone Restoration	$75,000	12/27/2013	6/30/2016	Closed
22	Town of Los Altos Hills	O'Keefe Preserve Purissima Creek Habitat Restoration Project	$98,425	10/19/2013	6/30/2016	Closed

Financial Information

In FY20, there was no budget.

Financial Summary ($ Thousands) CSC Environmental Enhancement and Open Space Grant								
Fiscal Year 2019-2020							15-year Program	
Adopted Budget	Budget Adjustments	Adjusted Budget	Budgetary Actual			% of Budget Spent	Adjusted 15-year Plan	% of Plan Spent
			Actual	Encumbrance	Total			
$0	$0	$0	$0	$0	$0	0%	$2,864	124%

Opportunities and Challenges

Grant extensions

The City of San José requested a fourth amendment for the Three Creeks Trail – Trestle and Interim Improvements project to extend the agreement to March 2021 due to delays caused by an unforeseen mediation process to address an organization that sought to prevent the project from moving forward. A court ruling was scheduled for March 2020 and was delayed due to the public health guidance related to COVID-19. In late June 2020, the court ruled in the City's favor and the project is continuing. Valley Water staff will work with the grantee to present the no cost, time extension amendment request to the Board for approval. To date, the grantee has completed 0.9 miles of interim trail improvements and the remaining work is to complete the pedestrian bridge.

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Appendix A: Annual Financial Summary Fiscal Year 2019-2020 ($ Thousands)

	Adopted Budget	Budget Adjustment	Adjusted Budget	Budgetary Actual Total	% Received
Revenue					
Special Tax	45,537		45,537	46,091	101%
Interest	2,400		2,400	5,849	244%
Other	13,476		13,476	14,677	109%
Subtotal	**61,413**		**61,413**	**66,617**	**108%**
Transfers and Refunding Proceeds	18,575		18,575	20,867	112%
Total Funding Sources	**79,988**		**79,988**	**87,485**	**109%**

Costs	Adopted Budget	Budget Adjustment[1]	Adjusted Budget	Budgetary Actual			% of Budget Spent
				Actual	Encumbrance	Total	
Priority A: Ensure a safe, reliable water supply							
A1 Main Avenue and Madrone Pipelines Restoration	334	(72)	262	280	0	280	107%
A2 Safe, Clean Water Partnerships and Grants	129	(100)	29	22	0	22	75%
A3 Pipeline Reliability Project	399	811	1,209	592	79	671	56%
Subtotal	**861**	**639**	**1,500**	**894**	**79**	**973**	**65%**
Priority B: Reduce toxins, hazards and contaminants in our waterways							
B1 Impaired Water Bodies improvements	1,768	0	1,768	1,148	251	1,399	79%
B2 Interagency Urban Runoff Program	817	0	817	711	0	711	87%
B3[1] Pollution Prevention Partnerships and Grants	871	(479)	392	166	7	173	44%
B4 Good Neighbor Program: Encampment Cleanup	765	750	1,515	845	0	845	56%
B5 Hazardous Materials Management and Response	30	0	30	25	0	25	83%
B6 Good Neighbor Program: Remove Graffiti and Litter	535	0	535	727	0	727	136%
B7[3] Support Volunteer Cleanup Efforts and Education	190	(110)	80	70	0	70	88%
Subtotal	**4,976**	**161**	**5,137**	**3,692**	**258**	**3,950**	**77%**
Priority C: Protect our water supply from earthquakes and natural disasters							
C1 Anderson Dam Seismic Retrofit	0	–	0	0	0	0	0%
C2 Emergency Response Upgrades	309	0	309	294	0	294	95%
Subtotal	**309**	0	**309**	**294**	0	**294**	**95%**
Priority D: Restore wildlife habitat and provide open space							
D1 Management of Revegetation Projects	1,204	0	1,204	900	0	900	75%
D2 Revitalize Riparian, Upland and Wetland Habitat	939	0	939	667	25	692	74%
D3[1] Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	1,896	(896)	1,000	328	113	441	44%
D4 Fish Habitat and Passage Improvements	3,368	2,602	5,970	2,298	327	2,626	44%
D5 Ecological Data Collection and Analysis	964	0	964	319	43	362	38%
D6 Creek Restoration and Stabilization	247	3,543	3,791	840	6	846	22%
D7 Partnerships for the Conservation of Habitat Lands	1,000	6,000	7,000	7,002	0	7,002	100%
D8 South Bay Salt Ponds Restoration Partnership	0	13	13	2	0	2	18%
Subtotal	**9,617**	**11,263**	**20,879**	**12,357**	**515**	**12,872**	**62%**
Priority E: Provide flood protection to homes, business, schools, and highways							
E1.1 Vegetation Control for Capacity	1,759	0	1,759	2,713	113	2,827	161%
E1.2 Sediment Removal	690	0	690	832	0	832	121%
E1.3 Maintenance of Newly Improved Creeks	217	0	217	134	0	134	62%
E1.4 Vegetation Management for Access	539	0	539	537	1	538	100%
E2.1 Coordination with Local Municipalities on Flood Communication	297	0	297	92	66	158	53%
E2.2 Flood–Fighting Action Plans	0	0	0	0	0	0	0%
E3 Flood Risk Reduction Studies	966	0	966	846	149	996	103%
E4 Upper Penitencia Creek	1,305	1,504	2,809	523	0	523	19%
E5 San Francisquito Creek	2,805	1,061	3,866	1,122	349	1,471	38%
E6 Upper Llagas Creek	11,985	33,505	45,490	34,706	6,617	41,323	91%
E7 San Francisco Bay Shoreline Protection	2,994	5,544	8,538	10,249	0	10,249	120%
E8 Upper Guadalupe River	88	25,070	25,157	945	24	969	4%
Subtotal	**23,646**	**66,683**	**90,329**	**52,699**	**7,321**	**60,020**	**66%**
Permanente Creek Flood Protection	2,860	6,693	9,553	3,952	3,236	7,188	75%
Sunnyvale East and West Channels Flood Protection	4,441	3,721	8,162	841	0	841	10%
Berryessa Creek Flood Protection	1	14,652	14,653	509	0	509	3%
Coyote Creek Flood Protection	941	100	1,041	1,249	27	1,277	123%
CSC Environmental Enhancement and Open Space Grant	0	0	0	0	0	0	0%
Calabazas Creek Miller to Wardell	0	0	0	0	0	0	0%
Subtotal	**8,244**	**25,166**	**33,409**	**6,551**	**3,264**	**9,815**	**29%**
Subtotal of All Outcome Costs	**47,653**	**103,912**	**151,564**	**76,487**	**11,437**	**87,924**	**58%**
SCW Planning and Development	3,456	389	3,845	3,329	34	3,364	87%
Debt Proceeds	0	–	0	0	–	0	–
Debt Service	3,102	0	3,102	663	0	663	21%
Management and Maintenance of Acquired Properties	168	–	168	107		107	64%
Total Program Cost	**$54,379**	**$104,300**	**$158,679**	**$80,587**	**$11,471**	**$92,058**	**58%**
Net Increase/(Decrease) to Reserves	25,609		(78,691)			(4,573)	

[1] Includes carryforward of unspent prior year capital budget.

Appendix A: Cumulative Financial Summary Fiscal Year 2013-2020 ($ Thousands)

	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board [1] Approved Adjusted	Adjusted 15-year Plan	Program-To-Date Actual Total	% Received	Current 15-year Forecast
Revenue							
Special Tax	722,740		0	722,740	289,293	41%	706,499
Interest	11,676		0	11,676	19,475	75%	25,905
Other [2]	79,714		109,567	189,281	63,274	33%	189,281
Total	**814,130**		**109,567**	**923,697**	**372,042**	**40%**	**921,686**
Beginning CSC Reserves	115,623	80,474		196,097	178,074		178,074
Transfers and Refunding Proceeds [3]	0		80,691	80,691	61,536		80,691
Total Funding Sources	**929,753**	**80,474**	**190,259**	**1,200,486**	**611,651**		**1,180,451**

	15-year Plan	FY13 Enc Bal & Cap Project Reserve	Board [1] Approved Adjusted	Adjusted 15-year Plan	Program-To-Date Actual: Actual	Program-To-Date Actual: Encumbrance	Program-To-Date Actual: Total	% of Adj. Plan Spent	Current 15-year Forecast[3]	15-year Forecast above/(below) 15-year Plan
Priority A: Ensure a safe, reliable water supply										
A1 Main Avenue and Madrone Pipelines Restoration [4]	8,303	0	9,267	17,570	17,258	86	17,344	99%	17,820	250
A2 Safe, Clean Water Partnerships and Grants	2,360	0	(557)	1,803	900	201	1,101	61%	1,452	(351)
A3 Pipeline Reliability Project	12,923	0	(985)	11,938	871	79	950	8%	12,608	670
Subtotal	**23,586**	**0**	**7,725**	**31,311**	**19,030**	**366**	**19,395**	**62%**	**31,881**	**569**
Priority B: Reduce toxins, hazards and contaminants in our waterways										
B1 Impaired Water Bodies improvements	26,982	445	0	27,427	8,418	637	9,054	33%	24,230	(3,197)
B2 Interagency Urban Runoff Program	12,641	0	0	12,641	4,730	0	4,730	37%	13,469	827
B3 Pollution Prevention Partnerships and Grants	7,595	0	0	7,595	2,489	858	3,347	44%	7,517	(78)
B4 Good Neighbor Program: Encampment Cleanup	5,209	105	10,365	15,679	7,422	0	7,422	47%	16,215	535
B5 Hazardous Materials Management and Response	618	0	0	618	182	0	182	29%	504	(114)
B6 Good Neighbor Program: Remove Graffiti and Litter	10,036	2	0	10,038	3,701	93	3,794	38%	8,972	(1,066)
B7 Support Volunteer Cleanup Efforts and Education	2,430	0	0	2,430	1,205	203	1,408	58%	2,899	469
Subtotal	**65,511**	**552**	**10,365**	**76,429**	**28,146**	**1,791**	**29,936**	**39%**	**73,805**	**(2,624)**
Priority C: Protect our water supply from earthquakes and natural disasters										
C1 Anderson Dam Seismic Retrofit	67,053	0	0	67,053	14,000	0	14,000	21%	66,053	(1,000)
C2 Emergency Response Upgrades	3,357	0	0	3,357	2,164	8	2,172	65%	3,830	473
Subtotal	**70,410**	**0**	**0**	**70,410**	**16,164**	**8**	**16,172**	**23%**	**69,883**	**(527)**
Priority D: Restore wildlife habitat and provide open space										
D1 Management of Revegetation Projects	22,259	0	0	22,259	5,330	20	5,350	24%	14,331	(7,928)
D2 Revitalize Stream, Upland and Wetland Habitat	18,190	0	(3,000)	15,190	3,030	920	3,950	26%	7,694	(7,496)
D3 Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails	24,092	0	0	24,092	5,033	2,651	7,684	32%	21,166	(2,926)
D4 Fish Habitat and Passage Improvements	29,176	358	20,631	50,165	10,655	714	11,369	23%	46,165	(4,000)
D5 Ecological Data Collection and Analysis	9,020	0	0	9,020	2,652	44	2,697	30%	8,255	(765)
D6 Creek Restoration and Stabilization	16,719	0	5,605	22,324	2,129	6	2,135	10%	15,226	(7,097)
D7 Partnerships for the Conservation of Habitat Lands	10,524	0	0	10,524	8,012	0	8,012	76%	8,012	(2,511)
D8 South Bay Salt Ponds Restoration Partnership	4,694	0	(296)	4,398	283	0	283	6%	4,408	10
Subtotal	**134,673**	**358**	**22,940**	**157,971**	**37,125**	**4,355**	**41,480**	**26%**	**125,257**	**(32,714)**
Priority E: Provide flood protection to homes, business, schools, and highways										
E1.1 Vegetation Control for Capacity	24,560	11	0	24,571	9,655	138	9,793	40%	32,931	8,360
E1.2 Sediment Removal	9,832	16	0	9,848	3,840	23	3,864	39%	11,681	1,833
E1.3 Maintenance of Newly Improved Creeks	19,051	0	0	19,051	134	0	134	1%	19,051	(0)
E1.4 Vegetation Management for Access	6,156	0	0	6,156	3,125	1	3,127	51%	9,314	3,158
E2.1 Coordination with Local Municipalities on Flood Communication	2,530	0	0	2,530	951	80	1,031	41%	4,151	1,620
E2.2 Flood–Fighting Action Plans	1,361	0	0	1,361	0	0	0	0%	0	(1,361)
E3 Flood Risk Reduction Studies	9,374	0	0	9,374	4,971	215	5,186	55%	10,404	1,030
E4 Upper Penitencia Creek	59,413	0	(34,414)	24,999	1,172	0	1,172	5%	27,763	2,764
E5 San Francisquito Creek	47,740	2,907	29,731	80,378	50,059	1,376	51,435	64%	76,517	(3,860)
E6 Upper Llagas Creek	84,098	6,784	172,189	263,071	82,642	10,724	93,366	35%	263,888	816
E7 San Francisco Bay Shoreline Protection	22,288	0	(4,772)	17,516	20,458	36	20,494	117%	26,366	8,850
E8 Upper Guadalupe River	69,112	39,382	(10,880)	97,614	33,450	3,740	37,190	38%	106,270	8,656
Subtotal	**355,515**	**49,100**	**151,854**	**556,469**	**210,459**	**16,333**	**226,792**	**41%**	**588,335**	**31,866**
Clean, Safe Creeks Capital Flood Protection Projects										
Permanente Creek Flood Protection	22,111	9,398	50,197	81,706	76,658	4,337	80,995	99%	85,095	3,389
Sunnyvale East and West Channels Flood Protection	82,249	4,463	(26,268)	60,444	9,326	36	9,362	15%	76,012	15,568
Berryessa Creek Flood Protection	25,288	6,757	14,702	46,747	28,705	3,872	32,578	70%	52,775	6,028
Coyote Creek Flood Protection	18,663	5,757	31,671	56,091	3,967	27	3,995	7%	57,014	922
CSC Environmental Enhancement and Open Space Grant [5]	0	2,864	0	2,864	2,934	620	3,554	124%	4,123	1,260
Calabazas Creek Miller to Wardell	0	1,223	0	1,223	66	0	66	5%	159	(1,064)
Subtotal	**148,311**	**30,462**	**70,302**	**249,075**	**121,656**	**8,893**	**130,550**	**52%**	**275,178**	**26,103**
Subtotal of All Outcome Costs	**798,007**	**80,472**	**263,186**	**1,141,665**	**432,579**	**31,746**	**464,325**	**41%**	**1,164,339**	**22,674**
SCW Planning and Development	31,999	2	0	32,002	17,624	44	17,668	55%	36,737	4,736
Cost of Financing	43,119	–	–	43,119	0	0	0	0%	23,913	(19,206)
Debt Proceeds	–	–	–	–	(30,000)	0	(30,000)	0%	0	0
Debt Service	0	0	0	0	1,915	0	1,915	0%	–	0
Management and Maintenance of Acquired Properties	0	0	0	0	732	0	732	0%	2,040	2,040
Overhead Adjustment	–	–	–	0	283	0	283	0%	0	0
Market Valuation Reserve	–	–	–	–	–	–	3,369	0%	–	0
Currently Authorized Projects [6]	–	–	–	–	–	–	80,078	0%	–	0
Operating and Capital Reserve	56,627	(0)	(72,927)	(16,300)	–	–	71,280	0%	(31,836)	(15,536)
Total Program Cost	**$929,752**	**$80,474**	**$190,259**	**$1,200,486**	**$423,135**	**$31,790**	**$611,651**	**51%**	**$1,195,194**	**($5,292)**

[1] Board approved adjustments include changes to Safe Clean Water capital projects based on the Board approved FY20 CIP.

[2] The $181.8M projected Other Revenue includes $100M in unsecured grant funding for the following: (1) $80M for Upper Llagas Creek and (2) $20M for San Francisquito Creek.

[3] Transfers & Refunding Proceeds of $59.5M consists of: $16.1M for proceeds from the 2012 and 2017 refundings and $43.4M from Transfers In for various Safe, Clean Water projects.

[4] Cost of the project is $17.8M. The Water Utility fund will pay $11.4M via transfer; net cost to Safe, Clean Water is $6.4M.

[5] The $4.1M Current 15-yr Forecast includes CSC encumbrance carryforward, plus additional cost to administer remaining CSC grants.

[6] Currently Authorized Project Reserves represents unspent capital project budget that will be carried forward and spent in a future year.

Appendix A-2.1 FY20 Currently Authorized Project Reserves ($ Thousands)

		Currently Authorized Project Reserves		
		Balance	Project Reserves	Total
Priority A: Ensure a safe, reliable water supply				
A1	Main Avenue and Madrone Pipelines Restoration	225	0	225
A3	Pipeline Reliability Project	538	0	538
Priority D: Restore wildlife habitat and provide open space				
D4	Fish Habitat and Passage Improvements			
	Almaden Lake Creek/Lake Separation (KPI 1)	374	0	374
	Ogier Ponds Creek/Lake Separation (KPI 1)	1,095	156	1,251
	Fish Passage Improvements (KPI 3)	1,930	0	1,930
D6	Creek Restoration and Stabilization			
	Hale Creek Enhancement	2,719	0	2,719
D8	South Bay Salt Ponds Restoration Partnership	11	253	264
Priority E: Provide flood protection to homes, business, schools, and highways				
E4	Upper Penitencia Creek Flood Protection Project	2,286	1,260	3,546
E5	San Francisquito Creek Flood Protection Project	2,411	0	2,411
E6	Upper Llagas Creek Flood Protection Project	4,188	5,795	9,983
E7	San Francisco Bay Shoreline Protection			
	Economic Impact Areas 1-10 (KPI 1)	114	640	754
	Economic Impact Area 11 (KPI 2)	19	0	19
E8	Upper Guadalupe River Flood Protection Project	24,287	355	24,642
Clean, Safe Creeks Capital Flood Protection Projects				
	Permanente Creek Flood Protection	2,394	0	2,394
	Sunnyvale East and West Channels Flood Protection	7,335	8,750	16,085
	Berryessa Creek Flood Protection	14,144	0	14,144
	Coyote Creek Flood Protection	-209	1,011	802
	Total Currently Authorized Project Reserves	**$63,858**	**$18,220**	**$82,078**

Appendix A: Other Revenue ($ Thousands)

Table A-3.1 Other Revenue Comparison — Original Program Forecast, Actuals to Date (FY14-20) and Forecast (FY21-28)

Other Revenue Sources	Project Numbers	Original Forecast 2012	Actuals Program to Date (FY14-20)	Forecast (FY21-28)
Capital Reimbursements				
State Subventions				
E6 - Upper Llagas Creek Flood Protection	26174051s	$30,000	$22,322	$16,018
E8 - Upper Guadalupe River Flood Protection	26154001s	$33,044	$15,002	$1,419
CSC - Berryessa Creek Flood Protection	26174041s	$12,841	$0	$4,384
Grants				
Department of Water Resources Prop. 1E Grant E6 - Upper Llagas Creek Flood Protection	26174051s		0	$80,000 [1]
Department of Water Resources Prop. 84 Grant E7 - San Francisco Bay Shoreline Protection	26444001s		$12,339	$1,478
Department of Water Resources Prop 1E CSC - Berryessa Creek Flood Protection	26174041s		$1,662	$2,708
Other				
City of Morgan Hill E6 - Upper Llagas Creek Flood Protection	26174051s	$780	$1,260	$0
Certificate of Participation E-8 Upper Guadalupe River Flood Protection	26154001s		$1,400	$0
City of Mountain View CSC - Permanente Creek Flood Protection	26244001s		$1,102	$1
Cost Share Agreements				
San Francisquito Creek Joint Powers Authority E5 - San Francisquito Creek Flood Protection	26284002s		$5,658	$20,000 [1]
State Operating Grants				
B2 - Inter-Agency Urban Runoff Program	26771011		$156	
Local Operating Grants				
Guadalupe River Coordinated Mercury Monitoring Plan B1 - Impaired Water Bodies Improvement	26752043		$132	
Rental Income				
Fund 26		$3,049	$2,163	
Other				
Fund 26			$79	
Sub-total		**$79,714**	**$63,274**	**$126,008**
Grand Total (Actuals + Forecast)			**$189,281.444**	

[1] Unsecured; not in CIP.

Appendix A: Transfers and Refunding Proceeds ($ Thousands)

Table A-3.2 Transfers and Refunding Proceeds — Actuals Program-to-Date (FY14-20) vs. Forecast (FY21-28)

	Actuals Program-to-Date (FY14-20)	Forecast (FY21-28)
Debt Proceeds		
Commercial Paper	$30,000	$60,000
Refunding Proceeds		
2012 and 2017 Debt Refunding	$16,131	$0
Transfers In		
Fund 61 Project A1: Main Avenue and Madrone Pipelines Restoration	$11,378	$0
Fund 12 Special Tax Administration Expense Permanente Creek Flood Protection Project Project B4: Good Neighbor Program: Encampment Cleanup (90% of Rental Income) Project E6: Upper Llagas Creek Flood Protection Project E4: Upper Penitencia Creek Flood Protection Project B4: Good Neighbor Program: Encampment Cleanup	 $11,900 $1,197 $845 $17,510 $2,000 $575 $45,405	 $0 $0 $7,711 $6,365 $5,032 $0 $19,108
Refund of Expenditures		
For Guadalupe River Invasive Exotic Vegetation[1]	$48	$0
Subtotal for Transfers and Refunding Proceeds	**$61,583**	**$19,108**
Combined Subtotal for Transfers & Refunding Proceeds	**$80,692**	
Transfers Out		
Fund 61 Project C-1 Anderson Dam Seismic Retrofit[2]	-$14,000	-$52,053
Subtotal	**$77,536**	**$27,055**
Combined Grand Total	**$104,591**	

[1] Refunds received in 2014 were for CSC work
[2] Captured as a Priority C-1 expense

Appendix B: Inflation Assumptions

	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Actual FY19	Actual FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
COLA Increase %	1.5%	2.0%	3.0%	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Step Increase %	0.2%	0.3%	0.3%	0.5%	0.5%	0.7%	0.6%	1.5%	1.5%	1.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Benefits Rate	52.7%	50.5%	49.6%	53.3%	53.1%	51.9%	52.5%	52.4%	53.2%	55.5%	56.1%	57.5%	57.8%	59.8%	62.0%
Supplies & Svcs Inflation*	3.0%	2.3%	2.7%	3.5%	3.9%	3.2%	1.6%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Construction Cost Inflation**	4.9%	2.3%	3.5%	1.5%	2.5%	2.8%	5.4%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

* Actual supplies and services inflation based on the San Francisco-Oakland-Hayward Consumer Price Index for all urban consumers as of June 2020.
** Actual construction cost inflation based on the City Cost Index of Engineering News Record results for the San Francisco Bay Area as of June 2020.

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Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3

SCW Project Number	Grant Cycle FY	Grantee/ Community Partner	Project Name	Description of Project	Amount Awarded	Total Project Cost	Status	Measurable Outcomes
A2	2014	City of Palo Alto	Business Water Use Reports	Research water use among small to medium businesses in the hospitality and food service industries in the Palo Alto service area, how best to communicate with these businesses about their water use, and what benchmarking information is available. Develop and pilot Business Water Reports that use behavioral science, data analytics and targeting, and informative graphics to communicate water use and spur conservation among businesses receiving Water Use Reports.	$45,000	N/A	Cancelled	
A2	2014	City of Palo Alto	Real-Time Water Use Monitoring - Optimal Utility Management Through Visibility to Water Consumption	Provide customers with the information and tools to monitor their own water use in real-time, thereby empowering them to actively manage water use at their facilities and address leaks or other anomalies in water use before encountering potential financial, mechanical, structural problems or liability risks. Selected Vendor will provide setup, configuration, analytics, real-time data service, weekly and monthly reports, real-time alerts, ongoing software support, updates and maintenance. Vendor will work with CPAU staff to calibrate the sensing devices for each meter whenever necessary, including when and if meters are evaluated for testing, repair and replacement through the CPAU meter auditing program. Vendor will facilitate training for the customer and CPAU staff, as needed, on use of the software monitoring platform. Vendor will assist CPAU staff with the final data evaluation to document program results.	$30,000	N/A	Cancelled	
A2	2014	Our City Forest	Innovative Nursery Irrigation	Design and install a prototype of an innovative water-conserving irrigation system in an educational garden.	$30,000	N/A	Cancelled	
A2	2014	First 5 Santa Clara County	Water Hydration Stations	Install 50 hydration stations in local schools to help the schools be in compliance with SB1413 and the Healthy Hunger-Free Kids Act.	$250,000	$250,000	Closed June 30, 2018	• Valley Water conducted a survey to assess the impact of the Water to Go stations at the schools. Of the 37 schools that have already installed their stations, 16 completed the survey. • Participants were asked about the overall success of the program and 75% said the Water to Go stations have been very successful at their schools and 25% believe it has been somewhat successful.
A2	2015	Bevilacqua-Knight, Inc.	Employee Rewards for Water and Energy Savings Program	Partnering with large corporate employers in Santa Clara County for outreach to educate employees on water efficiency and conservation in their homes through an employee rewards program.	$50,000	$64,324	Closed June 2017	• Ran a 3-month campaign which engaged 431 employees from eBay, VMware and BKi (4% of eligible employees at eBay, 8% at VMware, and 76% at BKi). • Participants logged 59 projects and 3,590 actions that cumulatively were estimated to save more than 1.3 million gallons of water a year. • 97% of VMware participants and 95% of eBay participants thought the challenge was a helpful way to learn about ways to save water. • Almost 90% of participants from VMware and eBay believed it was very important that their company provided opportunities to live a sustainable lifestyle at home and work.
A2	2015	San José Water Company	Advanced Metering Infrastructure (AMI) Residential Pilot Program	Evaluate advance metering infrastructure (AMI) system for single family residential customers - Willow Glen area. Evaluate conservation benefits of AMI cellular network technical system. Transmit data via existing cell network. Provide real time data and leak detection to customers and utility staff.	$50,000	$120,015	Closed June 30, 2018	Two meter reading routes in Willow Glen were chosen, with approximately 800 customers, to pilot the technologies. Two online portals, for both the utility and customers, made real-time water usage data available. Major findings of the study: • Both network systems worked well with no discernable performance differences. • High water-consuming households were more likely to sign up for the portal than low. • In the Badger route, households that signed up for the portal used 24% more water in the year preceding the pilot. In the Sensus route, households that signed up for the portal used 8% more water in the year preceding the pilot.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

A2	**2015**	**San José Water Company**	**Advanced Metering Residential Pilot Program**	Research to evaluate water saving potential from using new class - advanced water meters (ultrasonic E-Series from Badger Meter Inc.) for single family residential customers in the San José Water Company service area - Willow Glen.	**$50,000**	**$107,844**	**Closed June 30, 2018**	Water conservation results varied by pilot area: • Customers in the Badger pilot area who signed up for the portal used 7% less water in the year after the pilot as compared to the control group. • Customers in the Badger pilot area who did not sign up for the portal used 2% less water in the year after the pilot as compared to the control group. • This information is calculated based on the total water use for one year before and after the Advanced Metering Installation.
A2	**2015**	**City of Morgan Hill**	**Experimental Turf Irrigation Technology Evaluation at Morgan Hill Aquatics Center**	Test KISSS, a new lawn irrigation technology system, on two lawn areas near swimming pool on Morgan Hill facility. This pilot project will be designed specifically to test the technology with experimental and control areas of turf.	**$48,500**	**$64,900**	**Closed December 2017**	• City of Morgan Hill did not experience water savings with the KISSS system. Using a different species of grass in a different soil type or climate may conclude with a more positive result. • Conclusion is that the system is appropriate only at sites that are very closely managed by a small number of people and in a low traffic area.
A2	**2015**	**Deal Closet LLC DBA Bay Area Fresh**	**Low Cost Hydroponics for Cost Effective Growth of Leafy Vegetables**	Study efficiency of using farm wastewater for commercial growth of leafy vegetable crops through a hydroponic system in Santa Clara County. Using a method that captures wastewater from commercial Nutrient Film Technique (NFT) hydroponic system and recycles it into another hydroponic method, a method that requires no pumps or additional nutrients beyond those initially applied (Kratky's method).	**$25,000**	**$42,144**	**Closed June 2017**	• Conducted four (4) experiments to find out if recycling hydroponic wastewater statistically impacts the growth of food crops. • Results showed that there was really no effect at all between using recycled wastewater and using fresh water, and it's unlikely additional experiments would produce a result as extreme or more extreme than the one from this sample. • Plant sizes were in favor of using the Kratky system over the NFT system. The NFT plants were smaller and slower growing, but had tighter clustering of sizes. • This project demonstrated that the Kratky method outdoors outperforms NFT in all cases tested except in the case of heavily reused wastewater.
A2	**2016**	**City of Mountain View**	**Advanced Metering Infrastructure Feasibility Study and Pilot**	Evaluate available Advanced Metering Infrastructure (AMI) systems and their ability to optimize meter reading efficiency, increase customer service, and promote water-use efficiency within Mountain View.	**$50,000**	**$175,000**	**Completed March 2019**	Grantee will submit closeout material in FY21.
A2	**2016**	**Purissima Hills Water District**	**Residential Advanced Metering Program**	Test the efficacy of advanced metering infrastructure (AMI) in reducing water use amongst Purissima Hills Water District Customers.	**$50,000**	**$99,200**	**Closed June 2018**	• Purissima Hills Water District installed 400 Beacon endpoints and registers and compared water usage by Beacon to the Orion AMR. • Conclusion was that there was significant water savings by customers with Beacon meters over those with Orion meters.
A2	**2016**	**Velocitron LLC**	**Micro Streams Faucet Adapter**	Install micrometer sensors in businesses in Santa Clara County to determine water use and detect leaks to help save water.	**$30,000**	**$40,000**	**Closed June 2018**	The 0.1 Gallon Per Minute (GPM) micro-stream faucet adapter developed by Velocitron was proven to be capable of providing satisfactory sensation and efficiency for common washing activities with significantly lower water consumption.
A2	**2017**	**Fisher Nickel, Inc.**	**Dipper Well Replacement**	Measure existing dipper well(s) water use and verify the savings potential through a replacement with best available technologies in a real-world food service setting.	**$37,500**	**$50,000**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

A2	**2017**	**Ecology Action**	**Every Drop Counts – Investigation of Water Savings from Indoor, Non-Potable Rainwater Harvesting Systems**	Partner with residential, commercial, and institutional property owners to construct and monitor water use and water quality of rooftop rainwater harvesting systems for indoor, non-potable uses such as toilet flushing and clothes washing.	**$49,940**	**$97,765**	**Completed June 2020**	Grantee will submit closeout material in FY21.
A2	**2018**	**Purissima Hills Water District**	**Residential Advanced Metering Program**	Purchase and install 600 advanced metering devices to demonstrate that Advanced Metering Infrastructure (AMI) is an efficient tool to achieve sustained water savings in Purissima Hills Water District (PHWD) service area. This follow-on program will provide the funds to substantially complete the AMI program throughout the PHWD system.	**$50,000**	**$163,969**	**In progress**	
A2	**2018**	**Trust for Conservation Innovation DBA Multiplier**	**Beyond Leak Detection**	The purpose of this pilot study is to characterize the typical water savings – both from leak detection and water conservation behavior – that household experience following installation of a next-generation leak detection device. The study will evaluate two devices found to have design features well-suited to encouraging water conservation.	**$50,000**	**$66,667**	**In progress**	
A2	**2018**	**PS Creations LLC**	**PlateScrape**	The PlateScrape is a device built to pre-sanitize plates more efficiently and is estimated to use more than 75% less water than current spray off methods. The goal of the project is to pilot test the new technology to determine water and/or energy savings.	**$30,192**	**$60,392**	**In progress**	
A2	**2019**	**Purissima Hills Water District**	**Echologics EchoSohre DX Leak Project**	Purissima Hills Water District will test the efficacy of Echologics EchoShore DX Leak detection in reducing water throughout the distribution system. This Project is in alignment with Valley Water's mission to provide Silicon Valley with safe, clean water for a healthy life, environment and economy, and is in line with the grant goals of identifying water saving devices and strategies that can assist Valley Water in meeting its long-term water savings goal of 98,500 acre-feet per year by 2030.	**$30,000**	**$111,530**	**Agreement execution in progress**	
				A2 Sub-Total	**$956,132**	**$1,513,750**		

B3	**2014**	**San José Parks Foundation**	**Trash Free Coyote Creek Cleanup and Surveillance Project**	The goal is to create a trash free zone in the Coyote Creek riparian corridor between Tully Road and Hellyer Park (including the park) so as to reduce trash and pollution and their associated impacts on water quality and fishery beneficial uses.	**$26,783**	**$80,760**	**Closed Sept. 30, 2015**	• 14 cleanups. • More than 80,000 pounds trash removed. • 1,296 volunteers participated in a 3-hour event. • Monthly coordination meetings with Park Rangers, Environmental Services and Valley Water.
B3	**2014**	**California Product Stewardship Council**	**Secure Pharmaceutical Collection Bin Expansion**	The project will prevent pharmaceutical waste from contaminating waterways by establishing 50 new convenient and secure pharmaceutical collection bins in pharmacies, hospitals and police stations in Santa Clara County that will be distributed to increase convenience to all county residents.	**$206,417**	**$276,352**	**Closed October 6, 2017**	• 29 collection sites installed in local pharmacies and a few fire and police departments. • More than a ton-and-a-half (3,280 pounds) of prescription medication has been collected from the bins; some sites were emptied every week. • Produced a video to educate county residents about the consequences of improper medicine disposal as well as the appropriate disposal method.
B3	**2014**	**West Valley College**	**West Valley College Parking Lot 2 Stormwater Pollution Reduction Project**	Implement West Valley College Stormwater Pollution Reduction Plan through installation of stormwater improvements within Parking Lot 2. Stormwater planters will be constructed in the northern sections of the existing parking lot landscape islands and in the northeastern corner of the parking lot. The planters will treat runoff from the parking lot asphalt, concrete, and interior landscaping areas. After treatment, the stormwater will discharge to existing storm laterals off of Allendale Avenue.	**$200,000**	**$1,052,054**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2014**	**County of Santa Clara (Partnership)**	**Green Business Program**	Valley Water continues to partner with the Santa Clara County (County) Green Business Program and provides funding for Green Business certifications to promote the awareness and increase the number of certifications and re-certifications.	**$240,000**	**$240,000**	**Closed June 30, 2016**	**The partnership funded the certification of a maximum 75 business over the 3-year period. During this period, the County of Santa Clara's Green Business Program achieved the following:** • **90 business certified/recertified in FY14;** • **75 businesses certified/recertified in FY15;** • **103 businesses certified/recertified in FY16;** • **An advertisement campaign in FY16 geared towards reducing urban runoff from businesses. The campaign included videos, media ads, events, website, etc.** **Over the 3-year period, the program achieved the following results:** • **584,357 milligrams mercury reduced;** • **740,875,831 pounds solid waste diverted from the landfill;** • **955,408,254 pounds/tons Greenhouse Gas Emissions reduced;** • **7,075 gallons fuel saved;** • **530,483 gallons grease recycled;** • **137,936,466 gallons water saved;** • **410,335,999 kWh energy saved.**
B3	**2015**	**City of San José (Partnership)**	**San José Watershed Community Stewardship & Engagement Project**	The work will provide community engagement, outreach and education to engage the homeless population, and provide trash cleanup in both Coyote Creek and Guadalupe River. The work will be conducted in socio-economically diverse neighborhoods along two (2) different watersheds.	**$546,250**	**$1,090,000**	**In progress**	
B3	**2015**	**Silicon Valley Senior Services**	**Environmental Assist Pharmaceutical Pick- Up (EAPP) Program**	EAPP's dedicated volunteers in conjunction with local police/sheriff departments help decrease the amount of pharmaceuticals in our drinking water by assisting seniors and the disabled for safe pick-up of pharmaceutical waste; and providing information and education to Santa Clara County residents about safe disposal.	**$90,525**	**N/A**	**Cancelled**	
B3	**2016**	**West Valley College**	**West Valley College North Walk Storm Water Quality Improvements**	Treat runoff from six (6) acres in the North Walk and Parking Lot 6 sub-watersheds. The project includes the installation of storm water planters, rain gardens and bio-swales to promote infiltration and provide water quality treatment.	**$71,068**	**$648,301**	**In progress**	
B3	**2016**	**South Bay Clean Creeks Coalition**	**South Bay Creek Cleanup Program**	The SBC3 Program recruits volunteers through trail & park tabling, canvassing adjacent neighborhoods. These volunteers can participate in TEAM 222 Clean Up program which conducts clean ups every other month at multiple sites, including corporate events; and work on citizen monitoring network.	**$60,000**	**$80,000**	**Closed July 21, 2017**	• **14 Cleanups.** • **9.9 tons of trash collected.** • **442 Volunteers; 946 volunteer hours.** • **Nine (9) community presentations.** • **Developed outreach materials, including art work and video about spawning Chinook Salmon.** • **Conducted social media outreach.** • **The Coalition won the Governor's Environmental and Economic Leadership Award.**
B3	**2016**	**San Francisco Bay Wildlife Society**	**Don Edwards San Francisco Bay NWR Clean-Up 2016**	Collaborate with San José Conservation Center and Volunteers from Don Edwards San Francisco Bay NWR to remove trash from south San Francisco Bay tidal marshlands, mudflats and adjacent uplands in Santa Clara County. Integrate Litterati™ a social media technology, to create a litter database for long-term trash reduction and provide an interpretive display for education and outreach.	**$35,391**	**$73,390**	**Closed March 22, 2018**	• **Removed 6280.6 lbs (3.14 tons) of trash during 45 days of Litterati cleanups accomplished by 438 people.** • **In addition to the Litterati cleanups, 4,403 people were reached through five (5) outreach events in Santa Clara County.** • **Documented 13,002 photos with the Litterati app of every piece of trash collected and disposed of properly.** • **Cleaned 79.95 linear miles of refuge land and cleaned 100% of each first priority location, including Pond A-8, Pond A-17, Pond A-5/A-7, and Pond A-16.** • **Removed 509 bags of trash and cleaned 50% of a second priority area at Pond A-15.** • **Provided 14 presentations about trash prevention and Litterati to community organizations and volunteer groups.**

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2016**	**Santa Clara County Creeks Coalition**	**Trash Free North Coyote Creek Watershed Stewardship and Engagement Project**	Conduct 12 volunteer trash cleanups and outreach activities, conduct outreach activities, recruit more than 700 volunteers from business and community organizations and implement a docent-led walks program along 5 miles of north Coyote Creek from Tasman Drive to Jackson Street.	**$89,399**	**$142,239**	**Closed March 15, 2018**	• Conducted 24 cleanup events and removed more than 30 tons of trash from the banks of Coyote Creek in north San José. • Recruited more than 800 volunteers to assist with trash removal and learn about pollution prevention and ecological restoration of the creek. • Delivered 13 presentations to community organizations and attended 12 community events to inform the public about Coyote Creek and opportunities to be stewards of the creek. • Implemented a docent training program and led 10 public nature walks along Coyote Creek. • Documented changes in creek encampments along Coyote Creek, between Watson Park and Tasman Drive.
B3	**2016**	**Acterra Stewardship (Transferred to Grassroots Ecology)**	**Greening Urban Watersheds**	Over a 3-year period, provide designs for 4 rain barrels, 2 cisterns and 4 bio-retention/rain garden projects; coordinate 12 hands-on workshops to install rain barrels/gardens on city properties, and conduct 21 community creek cleanup events along 3 creeks; remove 13,000 pounds of trash from 4 miles of riparian corridors.	**$93,617**	**$189,261**	**Closed June 2020**	• 12 detailed plans for 6 rain barrel installations, 2 cistern installations, and 4 bioretentions/rain garden installations were created. • 12 workshops were held where 165 participants learned about the benefits of capturing rainwater, potential rebates available and how to create and install rain barrels, cisterns and rain gardens at home. • 6 rain barrel systems and 4 cisterns were installed at 6 sites in Palo Alto, allowing rainwater to be captured during storm events and used for irrigation. • 4 rain gardens were installed, alleviating peak flow of local creeks, filtering nonpoint source pollution from stormwater, and adding native plants to the landscape. • 22 creek cleanups removing 23,770 lbs of trash along 29 miles of creek corridor with the help of more than a thousand volunteers. • 12 project-related articles published (1 local television news piece) and 12 signs installed. • Worked with City of Palo Alto staff and other facility managers to ensure continued proper maintenance of installations. • Total rain barrel/cistern capacity: 2,055 gallons • Volunteer hours: 3,066 • Native plants installed: 508
B3	**2016**	**Regents of the University of California**	**Effective Storage and Composting of Livestock Manures**	Over a 45-month period, establish demonstration sites at 4 locations at McClellan Ranch, Emma Prusch and Martial Cottle Parks and the South County Airport. Outreach to livestock owners for proper manure storage and safe composting. The work will minimize pathogens from manures from entering storm water and creeks by demonstrating effective and safe composting.	**$60,000**	**$213,845**	**In progress**	
B3	**2016**	**County of Santa Clara (Partnership)**	**Pollution Prevention and Zero Waste Project**	Implement the Green Business Program, a third-party verified compliance-based program addressing surface water quality, storm water protection, pollution prevention and education. The program identifies pollution sources and provides ways to reduce use of toxic materials, and implement storm water protection practices. The program benefits water quality by avoiding impacts of improper management and air deposition on water.	**$200,000**	**$690,000**	**Completed June 2019**	Grantee will submit closeout material in FY21.
B3	**2018**	**City of San José (Partnership)**	**Pollution Prevention and Creeks Cleanup**	In partnership with City of San José, Valley Water will provide support to Downtown Streets Team, a local non-profit that engages the homeless community through outreach and education to actively work to maintain litter free waterways.	**$195,000**	**$495,000**	**Completed June 30, 2019**	Grantee will submit closeout material in FY21.
B3	**2018**	**Loma Prieta Resource Conservation District**	**Reducing Pollutant Source Loads**	Loma Prieta Resource Conservation District (LPRCD) in Santa Clara County in partnership with the University of California Cooperative Extension (UCCE) and the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) will provide four-prong outreach and assistance to limited resource socially disadvantaged Chinese-speaking farmers in Santa Clara County. Each prong of our approach will generate specific outputs and anticipated outcomes, which will be assessed with performance measure outcomes.	**$70,636**	**$121,436**	**In progress**	
B3	**2018**	**Downtown Streets Team - Sunnyvale**	**El Camino Clean Up**	Prevent litter from entering the water ways along El Camino Real, between Mary Ave and Wolfe Rd. by having volunteers daily picking up litter in the gutters and provide outreach by passing out pocket ashtrays to smokers and providing literature and education to the community.	**$122,280**	**$190,828**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2018**	**Downtown Streets Team - Penitencia**	**Penitencia Creeks Team**	Downtown Streets Team (DST) will work to improve water quality through reducing homelessness and the associated impacts of trash and debris on Penitencia Creek. DST will directly impact water quality by recruiting and organizing program participants living within the Project Area, along the Penitencia Creek, to clean the Penitencia Creek riparian corridor of debris and trash. DST will also conduct peer to peer outreach to assist other individuals outside the program to transition to housing and to communicate water quality concerns and encourage environmentally responsible behavior in the homeless population.	**$122,280**	**$196,816**	**In progress**	
B3	**2018**	**Santa Clara Valley Transportation Authority (VTA)**	**Keep Santa Clara Valley Beautiful**	Keep Santa Clara Valley Beautiful project will develop a focused comprehensive countywide program to reduce litter on Santa Clara County's freeways and contaminants from entering in nearby underground watersheds and creeks. The proposed project will include the following key elements: • Partnering with a national subject matter expert in the community environment preservation field, who will deliver a customized litter prevention program, develop a marketing campaign, and provide technical training for local staff and community leaders. • Procurement and installation of litter enforcement signs at "hot spot" locations. • Organizing two to three local volunteer litter clean-up events and one litter prevention summit. The primary objective of the Keep Santa Clara Valley Beautiful project is to implement a sustainable countywide litter prevention program with measurable benefits that facilitates positive, meaningful and lasting community behavior change.	**$78,285**	**$104,380**	**In progress**	
B3	**2018**	**Grassroots Ecology**	**Westwind Barn Stormwater Infiltration Project**	Grassroots Ecology will bring together volunteers and community partners to increase stormwater infiltration at Westwind Community Barn in the upper Adobe Creek watershed. A set of horse paddocks was recently disassembled in a seasonally wet area of the property, and horses are still stabled at the barn located immediately above Moody Creek in Los Altos Hills. The newly decommissioned paddock area presents an opportunity to enhance stormwater infiltration and water pollution filtration above Moody Creek. Through the proposed project, Grassroots Ecology will install a series of berms and contour plantings to slow and treat surface runoff as it approaches the creek, and densely plant low-lying areas to further slow and sink runoff. Volunteers will help create berms using nuisance vegetation removed from the project site, install strategically placed native plants along the contour and in topographic low points, and monitor progress by collecting data on water quality above and below the project site.	**$70,605.60**	**$118,219**	**In progress**	
B3	**2018**	**City of Milpitas**	**Contaminant Overflow and Backflow Prevention Project**	The funds from the B3 grant will provide the City of Milpitas with the opportunity to expand the City's Contaminant Overflow and Backflow Prevention Project. During the Project, the City will install additional SmartCovers to equip the City with high-tech devices that will alarm City Employees of any possible contaminants in waterways. The Contaminant Overflow and Backflow Prevention Program has, and will continue to, enrich the community with knowledge of the City waterways and City techniques to prevent contaminated overflow, or backflow, into City and nearby, creeks.	**$30,745**	**$85,383**	**Closed June 2020**	**The City purchased and installed thirty (30) SmartCover devices at strategic manhole locations adjacent to water bodies and creeks to prevent contaminants from entering nearby waterways in the event of a sanitary sewer overflow.** **Key Outcomes:** • **Proactive prevention and reduction of sanitary sewer overflows.** • **Improved sanitary sewer overflow response time.** • **Increased protection to the health and safety of the public and environment.**
B3	**2019**	**City of San José (Partnership)**	**Tully Road Ballfields Creek Cleanup Project**	The City will engage in a Creek Cleanup Project to address litter, trash and illegal dumping throughout Council District 7 to reduce trash-related blight. Additionally, the Project will focus on removing debris that pollutes Coyote Creek by coordinating cleanups, abating homeless encampments, investigating the installation of barriers to reduce re-encampment and engaging the community to address litter and trash.	**$200,000**	**$331,900**	**In progress**	
B3	**2020**	**Childern's Discovery Museum of San Jose**	**Exploration Portal: Preventing Pollution**	Children's Discovery Museum will develop the Exploration Portal, a 4,000 sf addition to the half-acre outdoor environmental education area known as Bill's Backyard: Bridge to Nature. This space, which is already home to a 7,200 gallon cistern and rain catchment system on the adjacent exhibit fabrication facility, is currently undeveloped. This project provides the opportunity to design and build a public space that prevents toxic runoff to the Guadalupe River while also offering educational experiences and facilitated programs. The project will showcase natural and human-made methods to prevent contaminants and other pollution from running off the nearby streets and trails into the Guadalupe River.	**$144,500**	**$3,155,938**	**Agreement execution in progress**	
B3	**2020**	**Grassroots Ecology**	**Community Based Stewardship of Green Stormwater Infrastructure**	Grassroots Ecology and the City of Palo Alto will develop a community-based stewardship effort for existing bioretention areas in the City's Southgate neighborhood. The objective of the program is to educate the community about green stormwater infrastructure (GSI) and to involve community members in the stewardship of bioretention areas in their neighborhood. The proposed program will include the following components: • Neighborhood work parties to refurbish and replant existing bioretention areas with locally native plants; • Community adoption program to help monitor and clean bioretention areas. Hands-on training for San Jose Conservation Corps members in green stormwater infrastructure care and maintenance.	**$89,332**	**$178,849**	**Agreement execution in progress**	
B3	**2020**	**West Valley Clean Water Program Authority**	**School Site Stormwater Pollution Prevention Plans**	The project will educate middle and High School students about contaminants entering our water, and then empowering them to make meaningful changes to improve water quality. This is accomplished through the structure of preparing a School Site Stormwater Pollution Prevention Plan (SWPPP). Using the school site as their focus, students will design and implement activities they have identified, using water quality goals, to reduce pollutants from flowing off their campus.	**$35,088**	**$78,230**	**Agreement execution in progress**	
B3	**2020**	**County of Sanra Clara**	**Green Business Program**	The Green Business Program is a compliance-based certification program operated in all 15 cities within Santa Clara County. Businesses seeking certification must meet the minimum requirements in order to achieve certification. The Program requires businesses to reduce environmental impacts in areas of energy, water, solid waste, transportation and take initiatives on pollution prevention best practices. In addition to these requirements, businesses must remain in compliance with all federal and state regulations relating to hazardous waste, hazardous materials, wastewater, storm water, food permits, pool & spa safety, fire code, and all other permits as applicable to the business. The Green Business Program partners with city and county compliance inspection agencies to educate businesses as well as utility partners and haulers to help businesses look for rebate incentives to become more sustainable.	**$120,000**	**$530,460**	**Agreement execution in progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B3	**2020**	**Guadalupe River Park Conservancy**	**Reducing the Impacts of Litter Along the Guadalupe River Trail**	The Reducing the Impacts of Litter along the Guadalupe River Trail Project provides stewardship along the four-mile segment of the Guadalupe River Trail between Virginia Street and Skyport Drive in downtown San Jose (Trail). Guadalupe River Park Conservancy will use the grant funds to: remove litter and debris along the Trail; provide rapid response to major pollutant threats; increase homeless outreach; create a more welcoming Trail environment; and provide education about the impacts of pollution reduction to the community.	**$90,049**	**$225,100**	**Agreement execution in progress**	
				B3 Sub-Total	**$3,288,251**	**$10,588,741**		
B7	**2014**	**Acterra**	**Acterra Lower Peninsula Healthy Creeks Project**	The Acterra Lower Peninsula Healthy Creeks Project brings together the resources and talents of nonprofit organizations, academic institutions, municipalities, government agencies, and the general public to provide a variety of hands-on creek stewardship activities and watershed education events designed to attract participants of all ages.	**$68,600**	**$179,910**	**Closed Sept. 30, 2016**	• 4,225 participants (1,305 volunteers and 2,920 education participants). • 24 volunteer water quality monitoring events on Stevens, San Francisquito (and its tributaries), Matadero, Barron, and Adobe Creeks. 17 events on Permanente Creek. • High quality data for 23 water monitoring sites and seven (7) benthic macroinvertebrate sites. • 14.75 miles of riparian areas cleared of trash. • 18,180 pounds of trash collected. • 10 World Water Monitoring Challenge events. • Eight (8) quarterly Watershed Forums. • 10 newsletters.
B7	**2014**	**Environmental Volunteers**	**Education for Clean Water**	The Education for Clean Water Project will leverage the Environmental Volunteers' skilled and committed base of volunteer docents to deliver hands-on, Citizen Science based Water Resources education to school classrooms and the general public.	**$25,092**	**$30,271**	**Closed June 30, 2015**	Conducted education activities in the Palo Alto Baylands Nature Preserve, utilizing the EcoCenter facility and the ecologically rich marshland surrounding it: • Developed and produced site resource guide; • 35 volunteer docents trained in new curriculum; • 12 local elementary school classrooms (more than 300 students) participated in field study excursions; • 818 community members participated in clean water education program, including art show featuring thematic works by local school children; earth day event; Girls-in-Science forum; and drop in visitors at the EcoCenter; • Citizen science data collection and data-sharing through Field Scope, a citizen science data sharing project; • Youth Leadership Board developed a new website promoting wise water use.

B7	**2014**	**Clean Water Fund**	**ReThink Disposable: Preventing Riparian Trash at the Source**	This is the continuation and expansion of a public-private partnership project involving Clean Water Fund (the project lead), and local government. The project (originally Taking out the Trash, but renamed ReThink Disposable), is currently a partnership with the cities of Oakland, San José, South San Francisco, San Francisco, the County of San Mateo, and Stop Waste of Alameda County.	**$82,133**	**$174,036**	**Closed July 6, 2017**	• Successful Coordination with the cities of San José, Cupertino and Sunnyvale.
								• 91 food businesses and 8 institutions received promotional materials to participate in the free ReThink Disposable audit and technical assistance.
								• Eight (8) presentations to various business associations and corporations in the county to promote the program to the target food business.
								• 12 food businesses and one (1) institution successfully completed the ReThink Disposable audit yielding the following ANNUAL impact numbers:
								  • 1,424,038 pieces of disposable food ware items eliminated;
								  • 24,265 pounds of waste prevented;
								  • $5,963 average cost savings after payback period was met.
								• Four (4) creek cleanups with 127 volunteers removing almost 4,000 pieces of trash and debris (mainly plastics) from "hot spots" on Calabazas and Coyote Creeks.
								• Engaged almost 30,000 residents in the County with the new ReThink Disposable Source Reduction Pledge.
								• Hosted one (1) ReThink Disposable Free Community Workshop and Training with almost 60 attendees from watershed and creek groups, teachers, and local government staff.
								• Coordinated with the Green Business Program on outreach and adoption of waste prevention best management practices for food businesses.
								• Developed a new public education tabling pop-up display.
								• San José's Hauler, Republic, promoted ReThink Disposable in a feature article in their quarterly newsletter mailed to 30,000 accounts.
								• The successful results from the Valley Water grant in the three pilot cities led to two new contracts with the City of Palo Alto and the Santa Clara Recycling and Waste Reduction Commission totaling $230,000 over the next three years. This will fund 60-80 more ReThink Disposable certified food businesses and 3-5 institutions in the county.
								• CWF's ReThink Disposable wins the 2015 Governor's Award for Environmental and Economic Leadership and the 2016 California Resource Recovery Association's Excellence in Waste Prevention Award.

B7	**2014**	**City of Sunnyvale**	**Schools Goin' Green**	The cities of Sunnyvale and Cupertino are proposing to partner locally with 2-3 middle schools and two (2) high schools, through their service organizations or environmental clubs, to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students.	**$32,250**	**$47,448**	**Closed June 30, 2016**	Six (6) schools participated in the effort to clean up litter on and around their school campuses and neighborhoods and to implement student-led campaigns to change the littering behavior of fellow students. Five (5) of the six (6) schools also established ongoing campus Green Teams. Among the major outcomes: • 3,421 youth participated in project events; • 98 cleanups over the course of the project; • More than 4,189 pounds of litter collected; • All teams participated in the City's Students Living Green App Challenge in April 2016; • Youth designed a logo for Schools Goin' Green. The project was identified as an outstanding stormwater project by the California Stormwater Quality Association (CASQA).

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	**2014**	**Girl Scouts of Northern America**	**Girl Scouts Go Green in Santa Clara County**	To implement an environmental outreach and education program focusing on the Priority B7 theme to "provide education and outreach for reducing pharmaceutical waste and other pollutants in our waterways (showing a benefit through awareness and engagement)."	**$44,116**	**$56,205**	**Closed July 31, 2016**	The 10-week afterschool environmental stewardship program was held at 18 partner sites in Santa Clara County in which: • 487 girls participated. • At least 4-8 hours were spent on hands-on environmental learning. • At least 4-6 hours were spent on environmentally-focused field trip. • At each partner site girls engaged in two community action projects. • More than 7,500 community members were reached through each of the girl-led community action projects. By the end of the program: • 82% of participating girls were able to name two or more actions they can personally take to prevent waste or pollutants from entering waterways, as measured by the post-program surveys. • 97% of participants were able to explain why mercury and pharmaceuticals are harmful when they enter our waterways, as measured by instructor observation. • 80% of participating girls reported that they could have a job that helps the environment, as measured by post-program surveys. • 91% of girls showed increased interest level in learning about environmental science, as measured by post-program surveys.
B7	**2014**	**Save the Bay**	**Clean Bay Project**	The project will build on the strong track record of supporting municipalities and community groups to eliminate significant components of plastic trash in storm water and reduce highly toxic tobacco litter in the San Francisco Bay to benefit water quality and public health.	**$60,000**	**$241,243**	**Closed June 30, 2016**	• More than 2,200 pounds of micro-trash debris removed in Santa Clara County, specifically at Coyote Creek, through community-based restoration and trash removal projects; volunteers also assisted STB scientists with habitat restoration by cultivating native plants and removing non-native plants. • Successfully advocated for the San Francisco Bay Regional Water Quality Board adopting a much stronger Municipal Regional Stormwater Permit in November 2016. The permit now includes additional trash reduction milestones and monitoring requirements, such as 70% trash reduction by 2017; 80% by 2018. • Analyzed data from the 2015 annual reports submitted by cities, counties, and districts holding stormwater permits and using the information to support Santa Clara cities accelerate their progress towards the goal of Zero Trash by 2022. • Created a Monitoring and Education Tool for Plastic Bag Ban Ordinances (and recently added one for Styrofoam bans). It is a database of all ordinances in the San Francisco Bay Area, from Morgan Hill in the South Bay to Cloverdale on 101 North. The database is accessed through a map interface so that one can click on a community and get a popup with information about specific ordinances or progress made toward adoption of ordinances. • Carried out "Zero Trash, Zero Excuse" public education campaign. • San José's comprehensive ordinance to ban Styrofoam has now been replicated in most Santa Clara County cities. • Successfully advocated Sunnyvale adopting and strengthening its smoking ordinance, which places the city on a path to reduce tobacco litter and second hand smoke.
B7	**2014**	**San José Parks Foundation**	**Trash Free Coyote Creek Education and Outreach Project**	The "Trash Free Coyote Creek Education and Outreach Project" is (1) to reach out to neighborhood and civic groups, trail users and businesses to educate them about the potential for cleaning up and keeping the Coyote Creek clean through volunteer cleanups and (2) to enlist their participation in creek cleanups and weekly creek inspections to create a Trash Free Coyote Creek.	**$42,199**	**$59,339**	**Closed Sept. 30, 2015**	• 150 people attend a day-long Coyote Creek Howl conference held at San José State University. • Nine (9) informative brochures produced on topics such as birds, plants, geology of Coyote Creek. • 32 presentations to community organizations. • 1-2 email newsletters a month to about 1,000.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

B7	**2018**	**Guadalupe River Park Conservancy**	**Guadalupe Watershed Education Campaign**	Project will enhance awareness of the biodiversity nurtured by Guadalupe River through programs for K-12 students, the annual Water Festival for 5thgrade students, activation of a 180-gallon aquarium, and the creation of a mural underneath the Coleman Ave. bridge.	**$28,410**	**$47,450**	**In progress**	
B7	**2018**	**Breathe California of the Bay Area**	**Youth for a Cool Earth (Y4CE)**	Youth for a Cool Earth (Y4CE) empowers youth to become environmental leaders and advocates to their peers, school, family, and community to do the same. The unique feature of the Y4CE program is that it is youth-determined and youth-directed. Will target marginalized/low-income youth.	**$35,000**	**$47,023**	**In progress**	
B7	**2018**	**Gilroy Compassion Center**	**South County Creeks Team**	Gilroy Compassion Center will partner with Downtown Streets Team, local jurisdictions, and other organizations to provide year-round outreach to homeless individuals living at target hot spots along South County Creeks. The outreach teams will provide information, encouragement, and incentives for homeless individuals to keep toxic materials, garbage, and waste out of the waterways.	**$15,000**	**$40,973**	**In progress**	
B7	**2018**	**City of Campbell**	**Los Gatos Creek Trail Interpretive Signage and Receptacle Expansion**	Project proposes to install ten environmental outreach stations along the Los Gatos Creek Trail, which parallels Los Gatos Creek and related percolation ponds. The stations, spaced along approximately 5.7 miles of the trail, would include educational interpretive signs with environmental stewardship messages related to trash and general health of riparian corridors.	**$33,731**	**$80,563**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition**	**Friends of Coyote Creek Watershed North Coyote Creek Stewardship Project**	Project continues to be pointing Volunteers at Stream Cleanups addressing the ongoing trash loads in our Riparian Corridor and Creek created Homeless encampments and storm run-off. Our Program conducts monthly cleanups with the goal of restoring stretches to trash free levels.	**$35,000**	**$46,655**	**In progress**	
B7	**2018**	**Girl Scouts of Northern CA**	**Green By Nature in Santa Clara County**	Project will provide all the elements of a successful meaningful watershed educational experience for students attending Title 1 schools and living in under-resourced neighborhoods in Santa Clara County using the Don't Waste that Watershed series curriculum	**$16,951**	**$23,384**	**In progress**	
B7	**2018**	**Grassroots Ecology**	**Stevens Creek Monitoring & Education Project**	Project will engage the local community in stewardship and hands-on learning. Project will provide creek-based volunteer and educational opportunities for all ages. Over the proposed three-year grant period, the project will engage 750 or more individuals and approximately 15 organizations including schools, colleges, nonprofits, and community groups.	**$34,459**	**$69,900**	**In progress**	
B7	**2018**	**Save the Bay**	**Zero Trash Campaign**	Project will evaluate annual trash reduction reports, educate and inform residents on the results of those reports, and provide particular feedback to two priority cities. We will implement effective outreach and communications strategy to increase and shape priority Santa Clara County communities' understanding of storm water pollution threats and opportunities. We also will engage 4,000 adults, teens, and children in wetland habitat restoration and/or trash cleanup projects.	**$15,000**	**$122,051**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition**	**Los Gatos Creek TEAM 222**	Project continues to be pointing Volunteers at Stream Cleanups addressing the on-going trash loads in our Riparian Corridors and Creek created by Homeless encampments and storm run-off. Our TEAM 222 Program conducts multiple events every other month on the second Saturday along stretches of Los Gatos Creek.	**$15,000**	**$19,995**	**In progress**	
B7	**2018**	**South Bay Clean Creeks Coalition (Partnership)**	**Guadalupe River/ Coyote Creek Watershed Community Engagement Project**	Project will conduct volunteer cleanups and educational stewardship opportunities around Guadalupe River/Coyote Creek Watershed.	**$199,353**	**$199,353**	**In progress**	
B7	**2019**	**Gilroy Compassion Center**	**South County Creeks Team**	The Project will engage local homeless individuals to go out to encampments along the creek areas of Gilroy providing services such as: outreach, education, and disposal of garbage. The project aims to reduce contaminants that are entering Santa Clara County waterways and ground water that poses an environmental threat to communities. Creek Team members will visit different hot spots in Gilroy identified by Valley Water to clean garbage and debris from creek beds. Homeless individuals will receive case management services and will be entered into the Homeless Management Information System (HMIS) and they will be given a VISPADT survey where they will be prioritized for permanent supportive housing.	**$30,000**	**$38,590**	**In progress**	
B7	**2019**	**Grassroots Ecology**	**Young Watershed Stewards Project**	Young Watershed Stewards will engage the local community in stewardship and hands-on learning that benefits the Stevens Creek, San Francisquito, and Matadero Creek watersheds within Santa Clara County. Through the Project, Grassroots Ecology will update and expand its high school stewards' programs based at Arastradero Preserve and McClellan Ranch Preserve to include watershed stewardship topics and add a community outreach component. High school stewards will engage with their local creeks through activities such as water quality testing, riparian planting, trash removal, and education on pollution entering these waterways. These stewards will take what they've learned into the broader community through a project at their school, presentations at community events, or other outreach.	**$44,301**	**$167,781**	**In progress**	
B7	**2019**	**The Tech Museum of Innovation**	**Down the Drain**	The Project will provide Down the Drain Science Labs to Title I field trip groups during the 2019-2020 and 2020-2021 school year. The Project will focus on offering resources to educators and modeling facilitation of watershed lessons. The Project will also include remediation to align educator resources to the water-related exhibits in the Tech Museum's new Solve for Earth exhibition.	**$21,811**	**$29,121**	**In progress**	
				B7 Sub-Total	**$878,406**	**$1,721,291**		

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2014**	**Resource Conservation District of Santa Cruz County**	**Uvas Creek Steelhead Spawning Habitat**	Improve in-stream habitat in multiple locations along a 3.7 mile reach 1 below Uvas Dam.	**$446,755**	**$592,905**	**Closed November 30, 2017**	• Removed and disposed of approximately 175 acacia trees (a non-native, evergreen species which create creek habitat limitations) on two (2) project sites. The project sites were continually monitored to assess acacia regrowth and the need for active revegetation. • About 1,800 linear feet of riparian habitat was restored. • Conducted three (3) educational outreach to provide educational information for landowners, demonstrate riparian restoration efforts, and garner local support for continued efforts on Uvas Creek.
D3	**2014**	**Acterra**	**McClellan Ranch Preserve Meadow Enhancement Project**	A collaborative volunteer-based project to remove invasive plants and establish "island" of native plants within a riparian meadow adjacent to Stevens Creek.	**$164,200**	**$426,452**	**Closed June 30, 2017**	• Three (3) years of vegetation survey data showing a decrease in invasive plant population, including Italian thistle. • Close to 12,000 native plants installed covering more than one (1) acre of the meadow. • Increased habitat value and diversity as result of planting more than 30 different types of native plants. This has led to increased native wildlife (more native insects, birds, and pollinators have been seen). • More than 3,500 community members engaged through 352 volunteer events; contributing 7,427 volunteer hours.
D3	**2014**	**Santa Clara County Open Space Authority**	**Coyote Valley Open Preserve South Valley Meadow Restoration Project**	To restore the hydrologic function and habitat value to an 8.5 acre seasonal wet meadow and riparian complex by restoring more than 800 yards of altered drainages, reseeding approximately 4.5 acres with a climate-smart native plant palette, and providing an extension of connected lowland California Tiger Salamander habitat into Coyote Valley.	**$256,276**	**$579,386**	**Closed June 30, 2017**	• 8.5-acre seasonal wet meadow and riparian complex recontoured and planted with perennial grasses and native plant species. • 0.1-acre pond created on-site. • 900 feet of incised channel raised and widened. • Seven (7) granite rock weir grade control structures placed. • One (1) loose rock head cut repair structure placed. • Roughly 20% of 50-acre watershed drainage reconnected to wet meadow valley floor.
D3	**2014**	**Acterra**	**Foothills Park Riparian Enhancement Project**	To monitor, restore and enrich wildlife habitat along the Park's four (4) miles of riparian corridors in the upper San Francisquito watershed, including Los Trancos Creek and Buckeye Creek.	**$126,300**	**$293,753**	**Closed June 30, 2017**	• More than 1,300 community members engaged through 94 volunteer events; contributing 4,380 volunteer hours. • Four (4) miles of creek monitored during 21 sediment monitoring days. • Four (4) miles of creekside vegetation surveyed for pre and post project comparison. • 2,755 linear feet of invasives removes. • 1025 native plants installed. • More than 24 native species planted. • 200 willow cutting installed. • Increased native plant species richness along Los Trancos and Buckeye Creeks. • Decreased invasive plant populations including target noxious weeds.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2014**	**West Valley College**	**Vasona Creek at West Valley College: Stream Stabilization and Habitat Enhancement Phase 2**	Restore 400 linear feet of Vasona Creek within West Valley College Campus in order to eliminate gully erosion, protect heritage trees, and restore hydrology.	**$300,000**	**$421,732**	**Closed Nov. 15, 2016**	• 740 linear feet of severely eroded and deeply cut channel reconstructed. • 0.2 acres of native riparian vegetation seeded and planted. • 432 native plants installed, including 85 willows alongside channel. • 36 Dusky Footed Woodrat nests protected in construction area, 15 nests relocated. • 10-year Monitoring, Maintenance and Reporting Plan. • Created an active college administration/ faculty "Stream Team" integrating project into curriculum. • Created a natural outdoor "classroom" and living laboratory in newly restored creek corridor. • Raised student and public awareness of environmental issues and restoration. • Extensive public engagement with community workshops, and volunteer efforts.
D3	**2015**	**County of Santa Clara**	**Calero County Park Oak Cove & North Shore Trails**	Construct approximately five (5) miles natural-surface multi-use trails adjacent to Calero Reservoir.	**$125,980**	**$212,738**	**Completed December 31, 2019**	Grantee will submit closeout material in FY21.
D3	**2015**	**Santa Clara County Open Space Authority**	**Outdoor Learning Center and Creek Side Valley Loop Trail**	Construct an Outdoor Learning Center within the 348-acre Coyote Valley Open Space Reserve, to serve as an outdoor classroom, a meeting location for educational and interpretive programs. This project also incorporated a 0.6 miles of ADA accessible trail.	**$200,000**	**$541,780**	**In progress**	
D3	**2015**	**West Valley College**	**Vasona Creek Trail**	The project will provide 0.33 miles of new ADA accessible trails within the West Valley College Campus.	**$171,000**	**$465,725**	**In progress**	
D3	**2015**	**San Francisco Bay Bird Observatory (Partnership)**	**Active Vegetation Management at Levees around South Bay Salt Pond**	The partnership will create transitional and upland habitats and provide the habitat structure needed by several federally listed species and state Species of Special Concern. Creating native plant communities on a 15-acre site will require two (2) years of preparation and four (4) years of phased implementation, maintenance, and monitoring. The project supports multiple Safe, Clean Water Program projects. It restores wildlife habitat; strengthens the South Bay Salt Ponds Restoration Partnership and revitalizes wetland habitat. The work also builds upon the strong existing partnership between Valley Water and the U.S. Fish and Wildlife Service to improve habitat on salt pond levees.	**$690,000**	**$1,327,106**	**In progress**	
D3	**2015**	**Trout Unlimited (Partnership)**	**Lower Uvas-Carnadero Creek Agricultural Wet Fort Alternative Design**	This partnership will result in the design of a free span bridge and the abandonment of the existing bridge. This would eliminate the fish migration barrier and improve water quality and riparian conditions. Valley Water's contribution will provide a matching fund for a state grant application.	**$24,450**	**$107,115**	**Closed May 31, 2018**	This is a Planning/Design Project which resulted in the 100% design (civil, geotechnical, structural) of a free span bridge across Carnadero Creek which when constructed, will allow for the abandonment of an existing agricultural "wet ford" and the abandonment of several hundred feet of existing dirt farm roads and accompanying access easement along the riparian corridor on lands owned by Valley Water. The bridge has the potential to provide improved habitat and migration conditions for threatened Steelhead Trout.

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2016**	**West Valley College**	**West Valley College Wildcat Creek Native Vegetation Enhancement**	Remove approximately two (2) acres of invasive, non-native vegetation within the WVC campus and re-vegetate the area with native species, propagated from a collection of native vegetation planted on campus during past native re-vegetation efforts on campus.	**$165,000**	**$247,707**	**Closed June 2020**	• 500 riparian plantings were installed in fall 2017, and received supplemental irrigation, weeding, maintenance, and monitoring through 2018. • Areas where invasive plant species where removed in 2017 were re-checked and re-treated as needed. Engagement of College administration/faculty to integrate this project into their curriculum. • 72 polygons of invasive plants (approximately 4 acres) were checked in spring and fall 2018 for newly emerging/re-sprouting invasive plants. • Creation of a natural outdoor "classroom" and living laboratory in newly restored creek corridor. • In Spring 2019, a walkthrough of the creek corridor was conducted to locate and map occurrences of invasive species. • Facilitated collaboration and over whelming support from City of Saratoga, neighborhood groups, and volunteers from local community groups and West Valley College students.
D3	**2016**	**Acterra (transferred to Grassroots Ecology)**	**Arastradero Creek Watershed Enhancement**	Install 2,000 linear feet of swale-and-berm structures on contour in the basin feeding Arastradero Creek, and low step structures to raise the groundwater table; remove invasive plant species along 1,000 linear feet of Arastradero Creek and plant a diversity of native species in their place to increase native vegetation and support wildlife.	**$107,561**	**$217,566**	**Closed June 2020**	• 1,200+ community members engaged through 101 volunteer events. • 2,500 feet of berms and swales created along the contour of a large drainage to slow, spread, and sink stormwater runoff. • 50 young willow trees established along Arastradero Creek. • Decreased invasive plant populations including four priority noxious weed species • Enhanced riparian corridor with thousands of newly installed native plants. • Monitored project activities through vegetation surveys, photo-monitoring, and in-channel geometric surveys.
D3	**2016**	**Acterra (transferred to Grassroots Ecology)**	**Byrne Preserve Riparian Enhancement**	Restore a degraded tributary to Moody Creek located in Byrne Preserve. The work includes community engagement and education, monitoring of vegetation and channel geometry, invasive plant removal, and native plant re-vegetation.	**$136,469**	**$240,056**	**Closed June 2020**	• 800 community members engaged through native plant installation and invasive species removal • 2,000 feet of creek geometry monitored • 2,000 feet of creek-side vegetation surveyed • 12 photo-monitoring surveys to monitor project activities • 8 noxious invasive plant species prioritized for removal resulting in reduced populations • Over 1,000 locally sourced native plants spanning 20+ species installed enhancing riparian corridor • Willow cuttings established along 600 feet resulting in increased canopy cover, sediment deposition, and reduced erosion
D3	**2016**	**Midpeninsula Regional Open Space District**	**Hendrys Creek Restoration Project**	Enhance 3/4 miles of the watershed through removing 14 in-stream structures; invasive plants from 4.44 acres of canyon; and by installing 0.33 acres of watershed specific, contract grown riparian and upload plants along the impacted creek banks and former road; and seeding 1.5 acres with native grasses, acorns and buckeye seeds on the former building pads, and improving the road located along the creek and tributaries.	**$484,650**	**$762,546**	**In progress**	
D3	**2016**	**Loma Prieta Resource Conservation District**	**Sycamore Alluvial Woodland Restoration Phase II—Feasibility**	This project includes a propagation study designed to test techniques to produce California sycamore seedlings vegetatively for use in a pilot restoration project. Study results will be shared through a high-quality PowerPoint presentation and distributed to all interested parties in the broader restoration and nursery community.	**$79,953**	**$127,705**	**Completed December 31, 2019**	Grantee will submit closeout material in FY21.

D3	**2016**	**Working Partnerships**	**Coyote Creek Invasive Plant Removal and Revegetation**	Prepare a plan for a project to remove invasive plants from the Coyote Creek Watershed and re-vegetate areas of the creek with native plants. The project will hire homeless individuals or formerly homeless individuals in transition housing to do the work.	**$24,750**	**$33,000**	**Closed February 20, 2018**	• Identified and completed mapping of invasive plant species in six (6) acres of private land along Coyote Creek. • Secured the California Conservation Corps as the employer of record to manage recruitment, selection, and social support for a crew of 10 formerly homeless or disadvantaged youth. • Developed a training and volunteer program, project cost estimate, and schedule to complete the work over a 5-year period. • Performed a biological assessment on the potential impacts of the project.
D3	**2016**	**City of Mountain View**	**Permanente Creek Watershed Enhancement Project**	Project will involve the removal of trash and non-native invasive plants along 2,350 linear feet of Permanente Creek. 1,000 local watershed plants will be revegetated along the creek providing habitat enhancement for multiple riparian species, special emphasis will be placed on enhancing habitat for two (2) special status species: burrowing owls (foraging habitat) and the San Francisco common yellowthroat (nesting and foraging habitat). This project will provide a unique educational opportunity for the local community, businesses and several educational establishments who will volunteer on this project along with Santa Clara Valley Audubon Society and Acterra.	**$43,920**	**$64,582**	**Completed December 31, 2019**	Grantee will submit closeout material in FY21.
D3	**2016**	**Save The Bay**	**Palo Alto Baylands Tidal Lagoon Transition Zone Habitat Restoration Project**	Save The Bay will restore and enhance 1.25 acres of high value tidal marsh transition zone habitat at this site immediately adjacent to existing tidal salt marsh in the Palo Alto Baylands Nature Preserve. It will create or improve crucial habitat that provides connectivity and refugia for waterfowl, shorebirds, and other species such as the federally- endangered Ridgway's Rail and salt marsh harvest mouse. Our project is ready to implement and will increase the adaptive capacity and resilience of tidal marsh species by enhancing the plant community and wildlife habitat both now and in light of future predicted sea level rise scenarios.	**$95,868**	**$235,335**	**In progress**	
D3	**2016**	**City of Santa Clara**	**Ulistac Restoration 2016 Project**	Ulistac Natural Area is a 40-acre open space preserve bordering Guadalupe Creek. Ulistac Restoration 2016 Project will improve trails and ramp access to the levee, restore 1.2 acres of riparian habitat along the Guadalupe River and enhance 1.26 acres of Live Oak Woodland habitat through removal of invasive non-native plants and trees, planting of native species, and documentation of native tree survival. Grant matching funds (25%) will be provided through City of Santa Clara CIP fund #3179 ($25,000) and volunteer labor donation (6450 hours, or $77,400 equivalent), in cooperation with Ulistac Natural Area Restoration & Education Project, Inc. and partnership with Santa Clara University Department of Environmental Studies and Sciences and Santa Clara Audubon Society. (Authorized by City Resolution #16-8301.)	**$165,249**	**$374,533**	**Completed December 31, 2019**	Grantee will submit closeout material in FY21.
D3	**2016**	**Friends of Stevens Creek Trail**	**Stevens Creek Steelhead Passage Improvement Project**	Conduct a Phase 1 study plan to (1) analyze alternatives and identify a preferred alternative for improving fish passage and (2) develop alternatives and identify a preferred alternative to improve fish migration at project sites.	**$52,162**	**$75,332**	**Closed December 7, 2017**	• Identified potential engineering solutions to eight fish passage impediments. • Provided hydraulic analysis, conceptual drawings, and estimated costs for projects at the selected locations. • Conducted two workshops to present the purpose of the study and the proposed solutions with stakeholders and community members.
D3	**2016**	**San Francisco Bay Bird Observatory**	**Establishing Forster's Tern Nesting Colonies for the South Bay Salt Pond Restoration Project Using Innovative Technologies**	This project will deploy and maintain 300 decoys and six (6) electronic call systems during the 2017 and 2018 breeding seasons (March-August) to attract birds to nest. Findings will be shared with the Don Edwards San Francisco Bay National Wildlife Refuge and the South Bay Salt Pond (SBSP) Restoration Project's outreach program; through Project's website, newsletter, and presentations at stakeholder meetings. Using innovative technologies, this project aims to re-establish a healthy nesting population of at-risk Forster's terns in Alviso Pond A16 on the Don Edwards San Francisco Bay National Wildlife Refuge. Benefits of this project include attraction of 50 or more Forster's tern breeding pairs to Alviso Pond A16 and establishment of nesting colonies with nest success rates of 60% or more.	**$217,032**	**$294,074**	**Closed April 30, 2018**	During the project, SFBBO deployed 300 Forster's tern decoys and six electronic call systems on six islands in Pond A16 during the 2017 breeding season. Bird surveys were conducted between March and August 2017 to evaluate bird response and the results of the project suggest that implementation of decoys and electronic call systems was successful in attracting Forster's terns in Alviso Pond A16. • 197% increase in the number of Forster's terns in the pond in May 2017 compared to similar results recorded in May of 2016. • More Forster's terns were observed around island with decoys and electronic call systems compared to islands without them, an approximately 6:1 ratio. • Eight (8) Educational outreach activities were completed: development of a project website, one (1) educational video, three (3) public presentations, one (1) publication of popular article, two (2) visits with local elementary school students.
D3	**2016**	**City of San José**	**Evergreen Creek Corridor Restoration**	The City will correct the poor placement of outlets in the sedimentation basin above the project sites and restore vegetation. Valley Water funded work will focus on removing 6.2 acres of non-native landscape; establishing irrigation and planting native plants along Quimby Creek and Upper Fowler Creek.	**$191,041**	**$502,039**	**In progress**	
D3	**2016**	**Children's Discovery Museum of San José**	**Bill's Backyard: Bridge to Nature**	CDM is developing a 27,500 square foot outdoor space named Bill's Backyard: Bridge to Nature. It will feature a tree structure to climb up, a hillside to roll down with tunnels to crawl through, a dig pit to shovel in, a dry creek bed to explore that mimics the adjacent Guadalupe River, and areas to build with natural materials like willows, reeds and grasses. Families will also have the chance to see demonstration projects and sustainability solutions up-close, providing xeriscape ideas to consider for use in their own backyards, such as permeable hardscape, drought-tolerant and native plants, rain gardens to retain surface water, water collection systems and solar panels. Valley Water funds will support the work for eliminating all grass and plant native plants for increased bio-diversity in the riparian environment and attract beneficial insects, migratory birds, small mammals and even Monarch butterflies.	**$142,771**	**$404,240**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3	**2016**	**Santa Clara Valley Chapter of the California Native Plant Society**	**Plant Pathogen Training and Education at CNPS Nursery**	Develop instructional/training videos to educate nursery professionals in pathogen control Best management practices (BMPs); promote safe use of California native plants through outreach and education events hosted by the California Native Plant Society (CNPS) throughout Santa Clara Valley Watersheds, and provide a demonstration and training sites at CNPS Nursery in Hidden Villa, Los Altos Hills, to implement plant pathogen control BMPs onsite, to share successes and lessons with other nurseries, and train volunteers and the larger community in pathogen control best practices.	**$50,574**	**N/A**	**Cancelled**	
D3	**2016**	**Campus Community Association**	**Metcalf Ponds Parkway Lakes Steelhead Habitat and Passage Improvement Project**	Conduct a planning study to evaluate alternatives to improve steelhead trout habitat and passage in the Metcalf Ponds reaches of Coyote Creek by separating the creek from the ponds, revegetating the restored creek with native riparian vegetation, and configuring the channel to optimize its habitat value while preserving the ponds' water management functions of Valley Water.	**$31,684**	**$42,278**	**Closed July 26, 2018**	• **The final results of the project found that it should be feasible to develop a beneficial restoration design for Coyote Creek and floodplain through the Metcalf Ponds reach, which would allow fish passage, improve ecological and geomorphic function, and contribute to reducing water temperatures, while maintaining the dominant portion of the current percolation capacity.**
D3	**2018**	**City of Morgan Hill**	**West Little Llagas Creek Interpretive Wildlife Trail Project**	The project proposes to construct a two-mile trail that will extend from Watsonville Road south and around the southeastern end of Lake Silveira near Monterey Road and California Avenue. It will also connect to the existing trail system that runs north, thus creating a continuous, uninterrupted pedestrian and bicycle pathway from the Lake Silveira Park area to Morgan Hill's downtown core. Trail users will have access to a unique interpretive experience of local wildlife and wetlands.	**$200,000**	**$998,800**	**Agreement execution in progress**	
D3	**2018**	**Midpeninsula Regional Open Space District**	**Webb Creek Bridge**	Project proposes to construct a new bridge over Webb Creek in Bear Creek Redwoods Open Space Preserve as part of a multi-phased plan to open the preserve for public access. The bridge will open approximately four miles of trails and facilitate a future regional multi-use trail connection between the Lexington Basin and Skyline, as well as ensure emergency service access is possible throughout the preserve.	**$149,500**	**$316,650**	**Completed January 31, 2019**	**Grantee will submit closeout material in FY21.**
D3	**2018**	**West Valley College**	**West Valley College Vasona Creek Trail Phase 2**	The project proposes to complete the design and construction of Phase 2 of the Vasona Creek Trail providing access to more than 20 acres of recently restored riparian corridor on the West Valley College campus.	**$221,500**	**$655,214**	**Agreement execution in progress**	
D3	**2018**	**Grassroots Ecology**	**Adobe Creek Corridor Extension Project**	Grassroots Ecology will partner with the City of Los Altos to restore native vegetation along an approximately 500-foot reach of Adobe Creek extending from the southern gate of Redwood Grove Nature Preserve to Mansara Way. Project activities include removal of invasive plant species, installation of native understory species with container plantings, maintenance of invasive plant removal and planting zones for four years, and community outreach and education.	**$150,753**	**$236,777.50**	**In progress**	
D3	**2018**	**Grassroots Ecology**	**Matadero Creek Corridor Project**	Grassroots Ecology, through a partnership with City of Palo Alto, will restore native vegetation along a reach of Matadero Creek forming the northeastern boarder of Bol Park. For the past several years, Grassroots Ecology has worked on a segment of the creek but with limited resources. This grant will support a more intensive effort to increase the habitat quality on this creek corridor.	**$49,356**	**$83,918**	**In progress**	
D3	**2018**	**San Francisco Bay Bird Observatory**	**Establishing Forster's Tern Nesting Sites Project**	Using innovative technologies, this Project aims to establish a healthy nesting population of at-risk Forster's Terns in Alviso Pond A16 for the South Bay Salt Pond (SBSP) Restoration Project and Don Edwards San Francisco Bay National Wildlife Refuge. The project will directly impact two (2) acres of island nesting habitat and 240 acres of wetland habitat within Alviso Pond A16, and indirectly impact up to 14,000 acres surrounding the Alviso Pond A16 nesting site through bird foraging behaviors.	**$164,000**	**$218,674**	**In progress**	
D3	**2018**	**San José Conservation Corps**	**Coyote Creek Vegetative Restoration and Disadvantaged Youth Career Path Project**	The Project will remove 111,000 sq. feet of invasive plants and replace them with native plants on seven (7) acres of private property along Coyote Creek north of Berryessa Road, San José. This will restore a native plant assemblage on this section of Coyote Creek and have watershed scale benefits by preventing reinfestation by invasive species of downstream properties for which invasive plant removal has recently been effected by the SCWD.	**$389,024**	**$533,115**	**In progress**	
D3	**2018**	**South Bay Clean Creeks Coalition**	**Los Gatos Greek Trestle Area Restoration Project**	The Los Gatos Creek Trestle Area Restoration Project will be implemented on a reach of Los Gatos Creek centered on the historic trestle accessible from Lonus Street in the City of San José to restore riparian habitat through the removal of invasive plants and the installation of native vegetation.	**$229,923**	**$462,323**	**In progress**	
D3	**2018**	**Santa Clara Valley Habitat Agency**	**Pacheco Creek Stream and Riparian Restoration Project**	Project will involve restoration of riparian and protected species habitat in the Pacheco Creek Reserve. The project will focus on five specific restoration activities; bank stabilization; riparian restoration to filter runoff and control erosion; riparian planting and management; floodplain function restoration and instream structures; as well as management and monitoring. The project also includes preliminary project planning, design and permitting, as well as mapping and wildlife surveys.	**$500,000**	**$1,774,400**	**Agreement execution in progress**	
D3	**2018**	**Friends of Stevens Creek Trail**	**Stevens Creek Steelhead Passage Improvement Project**	Project will provide construction of instream features at the Deep Cliff Golf Course on Stevens Creek in Cupertino to facilitate juvenile steelhead trout upstream passage (design, permit, construction).	**$120,000**	**$176,850**	**In progress**	
D3 Mini-Grant	**2018**	**Bay Area Older Adults**	**Watersheds & Wildlife Education Project**	Project proposes to engage older adults (50 yrs+) in watershed stewardship by: 1. Volunteering to remove invasive plants in the areas of Don Edwards Wildlife Refuge to improve the habitat in the marshlands 2. Lead 4.5 mile walks at Rancho San Antonio Open Space Preserve to educate and engage participants about flood protection 3. Lead 3-mile walk along Uvas Creek to educate participants about wildlife preservation in the creek and reservoirs	**$5,000**	**$6,650**	**Closed December 2018**	• **Majority of the 77 participants rated the program as "Extremely Satisfied" or "Very Satisfied."** • **97% of the participants said their knowledge about the watershed and/or wildlife project was improved by the program.** • **100% of those surveyed answered the educational multiple-choice watershed and wildlife question correctly.**

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3 Mini-Grant	**2018**	**Grassroots Ecology**	**Grassroots Ecology College Internship Program**	Project proposes educate and train college students to restore open spaces and creeks through a combination of field work, interpretive hikes, independent study, and capstone projects. The interns will work on restoration projects throughout the county watersheds and also learn about fish passage issues.	**$5,000**	**$34,360**	**Closed August 30, 2018**	The 8 interns taking part in the program achieved the following results: • 150 total learning hours • 50 hours of invasive plant removal and native plant care • 8 hours of channel surveying • 5 hours of vegetation monitoring • 3 hours of water quality monitoring • Enhancement of 7 Santa Clara County open space sites
D3 Mini-Grant	**2018**	**Guadalupe River Park Conservancy**	**Next Generation Science Standards Curriculum Development and Training**	The project proposes to update their curriculum to support Next Generation Science Standards that will help emphasize the importance of healthy watershed and support the training of guides to lead field trips for approximately 2,000 k-8 students.	**$4,976**	**$6,634**	**Completed April 1, 2020**	Grantee will submit closeout material in FY21.
D3 Mini-Grant	**2018**	**Living Classroom**	**Creating Native Habitats in Schoolyards: Crittenden Middle School**	Project proposes to work with Crittenden Middle School in Mountain View to restore a native plant garden to help engage and educate students, teachers, parents and the public about local native plants. The garden will be used as an outdoor learning classroom for teachers. Project will also provide lessons to middle school students on California's Biodiversity and Adaptation of California Native Plants that will likely reach nearly 400 students	**$5,000**	**$7,000**	**Completed June 6, 2018**	Grantee will submit closeout material in FY21.
D3 Mini-Grant	**2018**	**Living Classroom**	**Development and Implementation of "Sustainable Soil and Water" Lesson**	Project proposes to engage 5th graders in "Sustainable Soil and Water" lessons that will allow them to learn about the local watershed and how they can play a role in protecting the water quality and conserving the quantity.	**$5,000**	**$7,000**	**Closed April 2019**	• The project served a total of 125 fifth grade students. • 90% of students surveyed gave the new curriculum a passing or satisfactory response to questions that evaluated their understanding of the lesson objectives. • Each of the 5th grade teachers at Addison and El Carmelo Elementary that participated in the project gave the lesson "5's across the board"- A score of "5" indicates that the teachers strongly agree that the lesson met their expectations, objectives, included all necessary materials, and that the lesson delivery was effective and done well in engaging students.
D3 Mini-Grant	**2018**	**Smart Yards Education Foundation**	**Earth Day Water Community Awareness**	Project proposes to partner with students and faculty from SJSU & local community colleges to teach watershed stewardship in schools in low-income neighborhoods. Students will receive hands on learning activities that will demonstrate water and soil conservation, support to identify conservation subsidies, and learn other techniques to improve the community through watershed activities.	**$5,000**	**$7,000**	**Closed September 2018**	• The program garnered the support and participation of 10 non-financial sponsors and 1 financial sponsor (SCVWD) • A total of 2 workshops were presented • 58 individuals attended the event, including elected officials, Smart Yards Education Board of Directors, local community leaders, environmentalists, landscapers, students and clergy • Post event survey indicated that over 80% of the participants were very satisfied with the event
D3 Mini-Grant	**2018**	**Trout Unlimited**	**Little Arthur Creek Streamflow Stewardship Phase 2 Planning Project**	Planning for phase 2 of an existing project "Little Arthur Creek Streamflow" to improve streamflow by implementing "storage and forbearance" technique. Storage tanks would be provided to landowners who would agree to divert their water during wet season and cease all diversion during dry season.	**$5,000**	**$7,960**	**Closed June 30, 2020**	• Grantee completed legal analysis of public water rights, parcel records searches, and outreach to individual landowners on Redwood Retreat Road. • Grantee identified existing ponds and reservoirs within the Little Arthur Creek watershed using aerial imagery, calculated effective storage capacities, and estimated the streamflow enhancement potentials from hypothetical flow releases from each of the available storage reservoirs. • Grantee discovered that the magnitude of streamflow enhancement possible from pond flow releases is more efficient than the proposed residential storage and forbearance approach. • Grantee is using initial work from this Project to discuss more potential flow releases with Santa Clara County Parks and additional private landowners.
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Matadero Creek Cape Ivy Removal**	Project is proposing to remove cape ivy that was introduced to CA in 1950s and have since displaced native plants in the area. If it isn't removed it can cause serious soil erosion problems on the hillside. Grassroots Ecology will be supporting the efforts.	**$5,000**	**$10,400**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Native Hedgerow Planting as Fencing Alternative and Restoration Product in Permanent Conservation Easement**	Project proposes to plant and maintain 382 native shrubs in a hedgerow that will help restore the Deer Creek conservation easement which has been damaged by human impact over the years.	**$5,000**	**$24,870**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Restoring Native Understory Plant Community in support of biodiversity, improved water quality, and California tiger salamanders**	Project is proposing to plant 100 understory riparian plants to support CA tiger salamander on Stanford land.	**$5,000**	**$13,000**	**In progress**	
D3 Mini-Grant	**2018**	**Stanford Conservation Program**	**Riparian Tree Planting to Expand Canopy Cover in Stream Supporting CA Red-legged Frog**	Project proposes to enhance creek and bay ecosystems by planting and maintaining 25 native trees in the easement. Will also evaluate the presence of CA red-legged frog populations.	**$5,000**	**$12,375**	**In progress**	
D3 Mini-Grant	**2018**	**San Francisco Bay Bird Observatory**	**California Gull Predator Surveys**	The project will give local residents the opportunity to learn about and explore their local watersheds as well as disseminate this knowledge to their friends and families by having them participate in a surveying effort to count and document nesting California Gulls.	**$3,000**	**$5,048**	**Closed September 2018**	• Provided in depth training to 19 volunteers to work with staff to count and document nesting California Gulls. • Worked with 19 volunteers to monitor and complete the surveys of 10 California Gull colonies in the South San Francisco Bay. • Entered collected data from California Gull surveys into a long-term database to produce a report of the results of nesting surveys for US Fish & Wildlife Service, South Bay Salt Pond Restoration Project, and Santa Clara Valley Water District. The report helps to guide the progress of the restoration project and any necessary CA gull hazing to protect endangered and sensitive species. • A written report was completed for USFWS, South Bay Salt Pond Restoration Project, and SCVWD that included: the number of volunteers involved, the datasheet used during the surveys, analysis of the survey data, findings, and overall success of the project.
D3 Mini-Grant	**2018**	**San Francisco Bay Bird Observatory**	**Waterbird Monitoring in Santa Clara Salt Ponds**	The project proposes to expand their work connecting the community to the native birds in the bay through their Colonial Waterbird Program, a citizen science program that monitors nesting colonies of waterbirds within the South SFBay to document overall population trends and responses to restoration. SFBBO currently has a partnership and grant with Valley Water to accomplish restoration work in the South Bay Salt Ponds. Partial funding is recommended for this project.	**$5,000**	**$12,280**	**Closed October 2019**	• Submitted two reports to Restoration Project managers that assembled targets for waterbirds and outlined recommendations for waterbird monitoring. • In partnership with the U.S. Geological Survey and the U.S. Fish and Wildlife Service, the Grantee surveyed all South Bay Salt Pond restoration sites and accessed tidal marsh areas to document breeding waterbirds. The U.S. Geological Survey's report will be provided to Restoration Project managers. • Engaged thousands of community members with waterbird conservation.
D3 Mini-Grant	**2018**	**Grassroots Ecology**	**Nursery Phytosanitation Education and Equipment Upgrade**	Project proposes to upgrade their phytisanitary tables to support the growth of native plants and allow them to host two (2) educational nursery tours for professionals and garden groups to teach them about how to integrate the latest Best Management Practices for phytosanitation.	**$3,000**	**$11,332**	**Closed February 2020**	• Twelve new tables put into service at the nursery. • Hosted two educational tours at the nursery to two different groups.
D3 Mini-Grant	**2018**	**Veggielution**	**Eastside Explorers Watershed Curriculum**	Project proposes to take youth from East Side San Jose on field trips to educate them about the close relationship between the environment and their local food system. The activities they conduct are centered around collaborative group tasks focused on urban agriculture, nutrition, human impacts, and ecological interconnections. Through the grant award, they will increase community awareness and understanding of watershed stewardship by incorporating a watershed-specific component into their middle school field trip program curriculum.	**$5,000**	**$7,650**	**In progress**	
D3 Mini-Grant	**2018**	**Living Classroom**	**Hoover and Nixon School Native Ecology Garden-Based Lessons**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–5.	**$5,000**	**$8,000**	**Closed July 2019**	• Students met the lesson objectives with 83% accuracy • A total of 24 lessons were provided to approximately 400 students
D3 Mini-Grant	**2018**	**Living Classroom**	**El Carmelo School Native Ecology Garden-Based Lessons**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–5.	**$5,000**	**$8,000**	**Closed July 2019**	• Students met the lesson objectives with 84% accuracy (goal was 70%) • A total of 22 lessons were provided to approximately 400 students
D3 Mini-Grant	**2018**	**Keep Coyote Creek Beautiful**	**Santa Clara Park BioBlitz Events**	Project proposes to engage community members through a BioBlitz event to act as citizen scientists there they explore the natural environment of plants, wildlife, and aquatic species. A part of the educational process, attendees will participate in activities that will connect them to better understanding how to protect the waterways by keeping the environment healthy.	**$5,000**	**$13,500**	**Closed October 2019**	Hosted three BioBlitz event, where 194 participants of all ages and abilities came together to identify and learn about the natural environment, including plants, bugs, and birds.

D3 Mini-Grant	**2018**	**Living Classroom**	**Capri School Native Garden**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–3.	**$5,000**	**$8,000**	**In progress**	• Living Classroom provided 19 ecology focused lessons on habitats, ecology, pollution, and California's biodiversity to approximately 300 students at Capri, in grades K-3 • Created approximately 1,600 square foot native habitat garden at Capri School • Purchased and planted approximately 65 additional native plants (1-gallon size) representing 35 species • Created and installed 35 plant identification signs with a few sentences each to inform students • Grew 80 native plants from cuttings in the greenhouse and seed to supply native plants to other CUSD school native gardens
D3 Mini-Grant	**2018**	**Living Classroom**	**Castlemont Elementary School Native Garden**	Project proposes restore the school's native garden to be used as an outdoor classroom that will deliver watershed stewardship curriculum to over 400 students from grades K–3.	**$5,000**	**$8,000**	**In progress**	
D3 Mini-Grant	**2018**	**Oster Elementary Home & School Club**	**Oster Elementary School Gardens**	Project proposes increase students' knowledge and awareness of watershed stewardship through the renovation and implementation of a native garden as a living outdoor classroom.	**$5,000**	**$6,250**	**Closed April 2019**	• Volunteers installed drip line irrigation in raised beds and controller setup. • The project conducted a total of 3 volunteer workdays, which included a total of 44 total volunteers made up of students and parents. • Garden visits for the 2018-19 school year surpassed garden visits from past years.
D3 Mini-Grant	**2018**	**Citizens for Environmental and Economic Justice (CEEJ)**	**East San Jose: Overfelt Gardens Park Community Project**	Project is proposing to engage students from SJSU to develop a pollinator native garden, document and map out non-native species using GPS technology, remove those non-native species, and pick up litter in Overfelt Gardens Park. Project also proposes to develop new K-12 curricular to help increase awareness on local habitat in the area and support educational activities at the garden.	**$5,000**	**$15,360**	**In progress**	
D3	**2019**	**Santa Clara County Office of Education (Partnership)**	**Environmental Education and Student Assessment Project**	Project will support expansion of SCCOE's Education Outreach Program and environmental education programming to reach more students, specifically in school districts that lack the resources and opportunities to implement environmental education in their classrooms.	**$50,000**	**$175,000**	**In progress**	
D3	**2019**	**City of Morgan Hill**	**Madrone Channel Trail Improvements Project**	The Project is the first phase of a two-phase project to pave an existing unpaved trail that is located on a maintenance road adjacent to the east side of Valley Water's Madrone Channel. The 2.3-mile trail runs north along the eastside of Highway 101 from Tennent Avenue to Cochrane Road. The first phase is approximately 1.1 miles.	**$120,000**	**$401,958**	**In progress**	
D3	**2019**	**City of Milpitas**	**Milpitas Lower Penitencia Creek Pedestrian Bridge Project**	The Project will provide for design and construction of a pedestrian bridge across the Penitencia East Channel between McCandless Drive and Montague Expressway. The new pedestrian bridge will connect residential developments, the Penitencia Creek multi-use trail, future McCandless Park, and the recently completed Mabel Mattos Elementary School.	**$60,000**	**$1,865,000**	**Agreement execution in progress**	
D3	**2019**	**Midpeninsula Regional Open Space District**	**Beatty Trail Connection**	The Project will create new trail and public access at the Beatty property of the Sierra Azul Open Space Preserve (OSP) through new parking area and trail connection. The trail will provide new access to regional trails, including the Bay Area Ridge Trail (Ridge Trail) and Juan Bautista de Anza National Historic Trail, while also providing new creekside trail access.	**$149,906**	**$514,351**	**Agreement execution in progress**	
D3 Mini-Grant	**2019**	**Bay Area Older Adults**	**Watersheds & Wildlife Education Walks**	Bay Area Older Adults (BAO) proposes outdoor educational programs for older adults age 50+ to experience Valley Water watersheds first-hand as well as teaching them about protecting local watersheds and dependent ecosystems. The educational program is focused on hands-on learning which has been shown to be more effective than learning in a classroom. 1) Three-mile eduacational walk along Guadalupe River at Ulistac Nature Area in Santa Clara 2) Two-mile educational walk along Guadalupe River in San Jose 3) Two-mile educational walk along Penitencia Creek in Alum Rock Park in San José 4) Two-mile educaitonal walk along Stevens Creek at McCleland Racn Preserve in Cupertino 5) Three-hour volunteering effort at the Don Edwards Wildlife Refuge in San José	**$5,000**	**$14,448**	**In progress**	
D3 Mini-Grant	**2019**	**Grassroots Ecology**	**Peninsula/South Bay Watershed Forum**	Grassroots Ecology's proposed project, the Peninsula/South Bay Watershed Forum, intends to increase community awareness and understanding of watershed stewardship by convening Peninsula and South Bay community members, agencies, and organizations working on watershed-related issues to connect with one another, share information, and advance policies and best practices that promote watershed health.	**$5,000**	**$9,370**	**In progress**	
D3 Mini-Grant	**2019**	**Living Classroom**	**Equity in Environmental Literacy**	Living Classroom's "Equity in Environmental Literacy" project involves planning and supervising community building workdays to engage community members in planting native tree and under story plants, and interpretive signs, to create wildlife habitat, educate the participants and future visitors regarding the value of native plants in helping to restore our native ecology, and creating more beautiful and inviting outdoor gathering places for the local community. The intended impact is multi-fold: • Pride in enhancing an important neighborhood asset—the local school grounds--thus gaining an understanding of how participants can "bring nature home" to their neighborhoods by creating habitat-rich landscapes with native plants; • Engaging a significant number of local neighborhood and school family members in a very productive, satisfying, and fun volunteer activity that will improve a sense of belonging and sense of citizenship and contribution toward the school as well as our local watershed and native ecology; and • Elevating the important role of the public school grounds as demonstration sites for native landscapes and educating visitors about how attractive, water and resource conserving native plants are and how they are critical to supporting native wildlife populations.	**$5,000**	**$32,000**	**In progress**	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3 Mini-Grant	2019	Bay Area Older Adults	Watershed Appreciation Program	Project will provide four outdoor educational programs for blind older adults so they can experience Valley Water watersheds first-hand and to teach them about the Guadalupe watersheds and dependent ecosystems. The proposed project will bring blind older adults to four waterways in four different watersheds - Los Alamitos Creek and Guadalupe Slough (Guadalupe Watershed), Stevens Creek (Lower Peninsula Watershed) and Penitencia Creek (Upper Penitencia Creek Watershed)	$5,000	$7,590	Closed June 2020	• Participants increased their knowledge of the four watersheds located at the following locations: Los Alamitos Creek, Guadalupe Slough, Stevens Creek and Penitencia Creek. • Pre- and post-walk surveys indicated an increase in participant knowledge of the creeks from an average of 0 22% to 78-100%, respectively. • Educational materials, such as plans and guides, were created that incorporated the senses of touch, smell, hearing and taste.
D3 Mini-Grant	2019	Irvington High School	Sustainable California Initiative Project	The Project will provide funding to support Grantee's efforts to develop a watershed stewardship curriculum that will then be presented to approximately 10 high schools and 15 Boy Scout troops in Santa Clara County. Grant funds will also be used to create posters and artwork that will be displayed at local creeks, trails and parks with an emphasis on the benefits of preserving our watersheds, as well as cleanups at the Don Edwards Wildlife Refuge, Ed Levin County Park, and Berryessa Creek Park.	$3,230.54	N/A	Cancelled	
D3 Mini-Grant	2019	Science from Scientists, Inc.	ECOAdventures Vacation Camp	The Project will provide funding to support Grantee's efforts to implement two 5-day camps for 50 youths from the ages of 11 to 14 with a focus on STEM learning around our ecology, including our local watersheds.	$5,000	N/A	Cancelled	
D3	2020	Santa Clara Open Space Authority	Pond Restoration Project for California Red-legged Frog and Western Pond Turtle in Rancho Canada del Oro Open Space Preserve	This project directly improves habitat for two special status species within Rancho Canada del Oro Open Space Preserve (Preserve) in Santa Clara County: California red-legged frogs (CRLF), western pond turtles (WPT). The project is focused on conserving existing populations, increasing the number of individuals, and expanding the overall distribution of populations of these species in biologically appropriate locations to maintain viable populations and contribute to the regional recovery of these species. This will be achieved through critical pond redesign, invasive plant removal, and native vegetation restoration. This important restoration work will build a network of ponds to provide vital habitat for CRLFs and WPTs and provide linkage to the ring of protected lands surrounding the Preserve.	$476,796	$704,548	Agreement execution in progress	
D3	2020	Grassroots Ecology	Re-Oaking Silicon Valley	Grassroots Ecology will expand the climate resiliency of our region by growing, planting and establishing hundreds of oaks, willows, buckeyes and other native trees across public open spaces and parks in Palo Alto, Los Altos Hills and Cupertino, as well as providing native trees and plants through outreach programs in Sunnyvale and Santa Clara, where development has displaced the historic native tree canopy. Grassroots Ecology will provide education and service-learning opportunities to hundreds of people in Santa Clara County and will expand the awareness of the importance of native oaks in improving the region's ecosystem and watershed health.	$103,735	$351,685	Agreement execution in progress	
D3 Mini-Grant	2020	Living Classroom	Campbell Union Elementary School District	Living Classroom's native ecology lesson portfolio provides for outdoor instruction and student experiential learning at six schools Campbell Union Elementary School District (CUSD). The lessons taught at these schools focus on learning topics including ecology, sensory observation, pollination, water conservation, plant biodiversity and its relationship to wildlife diversity and abundance, healthy soil, and how all of this relates to a healthy watershed. Three of the six schools have native habitat gardens in place, one will be completed by summer's end, and we plan to install new native gardens at two schools (Sherman Oaks and Forest Hill) in the near future.	$5,000	$8,000	Agreement execution in progress	
D3 Mini-Grant	2020	Youth Outside	2019 Outdoor Educators Institute	Youth Outside's Outdoor Educators Institute (OEI) is one of our principal yearly programs, through which we support 18-24 year-old Bay Area residents interested in pursuing a career in outdoor education through an immersive training program on evenings and weekends over a three-month period, beginning in late August. OEI ensures that young adults who've historically faced social, economic, and cultural barriers to accessing the outdoors are reconnected to the natural world through training, skills-building, and experiences critical to their continued growth as leaders in the environmental field.	$5,000	$50,000	Agreement execution in progress	
D3 Mini-Grant	2020	San Jose State University Research Foundation	Watershed Stewardship Awareness – Educational Workshop Series	This project would be focusing on conducting a series of educational workshops with the goal of creating awareness of watershed stewardship. The workshop series will be conducted via Zoom live meeting or Zoom Webinar and the participants will be students in the Department of Civil and Environmental Engineering, and other students of San Jose State University who are interested in learning about watershed stewardship.	$5,000	$6,250	Agreement execution in progress	
D3 Mini-Grant	2020	Bay Area Older Adults	Watershed Appreciation Program	BAO will provide four outdoor educational programs for visually impaired older adults (VIPs) to experience Santa Clara Valley Water District (SCVWD) watersheds first-hand as well as teach them about the protecting our watersheds and dependent ecosystems, and related Measure B Program projects. BAO will customize the program for this underserved population; provide transportation from the Vista Center for the Blind, healthy lunches, four blind-trained guides and creation of four-sense focused watershed interpretation; and create surveys to analyze what participants learned from each program.	$5,000	$12,627.14	Agreement execution in progress	
D3 Mini-Grant	2020	Alliance for Water Efficiency	Sustainable California Initiative	The Project will provide funding to support Grantee's efforts to develop a watershed stewardship curriculum that will then be presented to approximately 10 high schools and 15 Boy Scout troops in Santa Clara County. Grant funds will also be used to create posters and artwork that will be displayed at local creeks, trails and parks with an emphasis on the benefits of preserving our watersheds, as well as cleanups at the Don Edwards Wildlife Refuge, Ed Levin County Park, and Berryessa Creek Park.	$3,231	N/A	Cancelled	
D3 Mini-Grant	2020	Guadalupe River Park Conservancy	Guadalupe Watershed Ecosystem Education Project	Guadalupe River Park Conservancy proposes funding for both program and transportation scholarships to bring Title One schools to Guadalupe River Park & Gardens. At least forty percent of a school's registered students must be eligible for Free or Reduced Price Meal (FRPM) in order to qualify for any GRPC scholarship.	$4,725	$6,433	Agreement execution in progress	
D3 Mini-Grant	2020	Bay Area Older Adults	Watershed and Wildlife Education Program	BAO will provide five outdoor educational programs for seniors age 60+ to experience Santa Clara Valley Water District (SCVWD) watersheds first-hand as well as teach them about the protecting our watersheds and dependent ecosystems, and related Measure B Program projects. We will customize the program for this underserved population by arranging carpooling, healthy lunches, three first aid-trained guides and creation of watershed interpretation. We will also create surveys to analyze what participants learned from each program.	$5,000	$15,876	Agreement execution in progress	

Appendix C: Cumulative Partnerships and Grants Information for Projects A2, B3, B7 and D3 continued

D3 Mini-Grant	**2020**	**Children's Discovery Museum of San Jose**	**Project Transect Alamitos Creek**	Children's Discovery Museum of San Jose (CDM) proposes to enhance its existing BioSITE (Students Investigating Their Environment) environmental education program for the 4th grade students from Graystone and Williams Elementary Schools and their Leland High School student mentors with a pilot program to use "transects" to conduct biological monitoring of the biodiversity of the important and rich riparian environment at three collection sites along Alamitos Creek. Our award-winning BioSITE curriculum, which uses local watersheds as outdoor classrooms, has traditionally focused on just the river or creek itself, and this pilot offering will expand the educational scope to include investigating change over time with the flora while also measuring impacts of human activity. Evaluation of data collected, both quantitative and qualitative, will inform directions for introducing transects at other BioSITE locations, including the Guadalupe River sites at Pioneer High School and CDM. We believe the intense study that transects promote will further young people's understanding of the important role the riparian environment plays in their community, furthering their commitment to environmental stewardship.	**$5,000**	**$197,712**	**Agreement execution in progress**	
				D3 Sub-Total	**$7,800,301**	**$18,659,924**		
				Combined Total	**$12,923,089**	**$32,483,706**		

Note: The grantees that are lead agencies (government agencies) are responsible for ensuring their projects comply with CEQA prior to the execution of the grant agreement. Valley Water acts as the lead agency for CEQA compliance on behalf of nonprofit grantees.

Completed: Project completed: Final project report and invoice pending.

Closed: Project completed: Final project report provided and invoice paid.

In Progress: Project on schedule for completion by end date.

Cancelled: Project cancelled by grantee.

Agreement Execution in Progress: Grant awarded and agreement is being finalized and executed.

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Safe, Clean Water and Natural Flood Protection Program
Appendix D: Capital Projects Jurisdictional Complexities (Confidence Levels Regarding Outside Agencies) Fiscal Year 2019–2020

Partners and Outside Agencies	A3 Pipeline Reliability Project	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization			E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection	E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Coyote Creek Flood Protection
			Site 1: Almaden Lake	Site 2: Ogier Ponds	Site 1: Hale Creek	Site 2: Bolsa Road	Site 3: Los Gatos		Upstream of 101		EIAs 1-10	EIA 11	Reach 6	Reaches 7-12			
Funding																	
U.S. Army Corps of Engineers (Funding)								M	L		M	H		L			
State Grants								M	L								M
San Francisco Bay Restoration Authority (Measure AA)									L			H					
Other									L	L	M						M
Regulatory Permitting																	
U.S. Army Corps of Engineers (Permits)		M			H	H		H	M	H			M	M	H	M	M
California Department of Fish and Wildlife	M	M			H	H		H	M	H			M	M	H	M	M
California Department of Industrial Relations/CA Occupational Safety		M															
Department of Water Resources Division of Safety Dams		M															
Federal Energy Regulatory Commission		M															
National Marine Fisheries Service		M				H		H	M	H			M	M		M	M
San Francisco Bay Regional Water Quality Control Board	M	M			H			H	M			M	M	M	H	M	M
Central Coast Regional Water Quality Control Board						H				H							
San Francisco Bay Conservation and Development Commission												M				M	
United States Fish and Wildlife Service		M				H		H	M	H			M	M	H	M	M
Valley Habitat Plan	M	M				H		H									M
Cities																	
Cupertino	H														H		
East Palo Alto									H								
Gilroy																	
Los Altos					M	H									H		
Menlo Park									H								

Note: H– high, M– moderate, L– low
Refer to page 2 for more information on confidence level definitions.

Partners and Outside Agencies	A3 Pipeline Reliability Project	C1 Anderson Dam Seismic Retrofit	D4 Fish Habitat and Passage Improvement		D6 Creek Restoration and Stabilization			E4 Upper Penitencia Creek Flood Protection	E5 San Francisquito Creek Flood Protection	E6 Upper Llagas Creek Flood Protection	E7 San Francisco Bay Shoreline Study		E8 Upper Guadalupe River Flood Protection		Permanente Creek Flood Protection	Sunnyvale East/West Channels Flood Protection	Coyote Creek Flood Protection
			Site 1: Almaden Lake	Site 2: Ogier Ponds	Site 1: Hale Creek	Site 2: Bolsa Road	Site 3: Los Gatos		Upstream of 101		EIAs 1-10	EIA 11	Reach 6	Reaches 7-12			
Milpitas																	
Morgan Hill		M								H							
Mountain View					M						M				H		
Palo Alto									H		M						
San José	H		H					M				M	H	M			M
Saratoga	H																
Sunnyvale											M					H	
Counties																	
Santa Clara County	H	M		M				M	H	H	M	M			H	H	M
San Mateo County									H								
Other Agencies																	
California Department of Transportation (Caltrans)									H	M				M		H	
California State Coastal Conservancy											M						
Gate of Heaven Cemetery (Diocese of San José)															H		
Department of Water Resources	H								H	M							
Federal Emergency Management Agency									M	M						M	
Peninsula Corridor Joint Power Boards (Caltrain)														M			
Midpeninsula Regional Open Space District											M				H		
NASA Moffett Field											M						
PG&E	M	M			M			M	M	M				L	H	H	
San Francisquito Creek Joint Powers Authority									H		M						
San Mateo County Flood Control District									H								
Union Pacific Railroad	L									M		L		L	H		
State Office of Historical Preservation		M				H									H		
Santa Clara Valley Transportation Authority (VTA)	M							M									

Note: H– high, M– moderate, L– low
Note: Empty cells are not applicable to that project.
Refer to page 2 for more information on confidence level definitions.

Appendix E: Cumulative Trash Removal Data for Projects B1-B4, B6 and B7

E-1: Estimated volume of trash removed by project for Projects B1, B2, B4, B6 and B7[1]

Project	Estimated amount of trash and debris removed in Tons and Cubic Yards (CY)[2]			
	FY14-FY19		FY20	
	Est. Tons	Est. CY	Est. Tons	Est. CY
B1: Impaired Water Bodies Improvement (KPI #3: Trash accumulation point mapping and removal)[3]	23.1	230.5	9.9	98.5
B2: Interagency Urban Runoff Program (KPI#1: Trash booms)[4]	5.4	54.2	0.9	9.5
B2: Interagency Urban Runoff Program (Hot spot cleanup)	20.9	205.2	2.2	21.7
B4: Good Neighbor Program: Encampment Cleanup[5]	5,704	79,853	681	9,536
B6: Good Neighbor Program: Remove Graffiti and Litter[5]	605	8,453	87	1,219
B7: Volunteer Cleanup Efforts and Education (KPI #2: Cleanup day events)[6]	286	2,853	26.5	165
Estimated Totals	**6,644**	**91,649**	**807**	**11,050**

[1]Grants and partnership trash removal information for Projects B3 and B7 are included in Table E-4.
[2]Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from cubic yards to tons; and/or data that was processed after the previous report was developed.
[3]The trash accumulation point mapping started in FY16. Due to high flows during the winter of FY17, re-mapping was delayed and conducted in May and June 2017. Trash identified as part of this mapping effort will be cleaned in FY18.
[4]The San Francisco Bay Regional Water Quality Control Board has requested that all stormwater permittees report trash in volume rather than weight. Volume is a more meaningful measure of the trash present because it is not affected by the weight of wet vs. dry trash. For Projects B1 and B2, volume is visually estimated in the field and likely includes some vegetation and debris. Where data was only collected in weight, a conversion was used based on a solid waste calculator estimating 10 cubic yards per ton. Prior conversions were not consistent; as a result, the numbers in this table may not match previously reported numbers.
[5]Tons were converted to cubic yards using an estimate of 14 cubic yards per ton, which is based on a comparison with industry standard conversions and a watershed field operations field experiment and analysis. Project B4 and B6 quantities are based on landfill weights measured in tons.
[6]Project B7 grants and partnerships (KPI #1) and Adopt-A-Creek Program (KPI #2) are not included. Grants and partnerships information is included in Table E-4. Data is currently not available for the Adopt-A-Creek Program because the trash is removed by volunteers who do not consistently measure or report their results. Volunteers use number of bags and approximate weights to estimate pounds. Using pounds simplifies measurement for volunteers and is consistent with the efforts of other jurisdictions implementing Coastal Clean Up and National River Clean Up days. Pounds were converted to tons (2,000 pounds = 1 US ton). Tons were then converted to cubic yards using an estimate of 10 cubic yards per ton. For Project B7 cleanup day even totals, the Safe, Clean Water Program funds 55% of this project.

E-2: Estimated volume of trash removed by watershed for Projects B1, B2, B4, and B6[1]

San Francisco Bay Watersheds	Estimated cubic yards (CY) of trash and debris removed[2]	
	FY14-FY19	FY20
Lower Peninsula	1,143	1,758
West Valley	2,061	188
Guadalupe	15,976	3,376
Coyote	60,506	4,832
Uvas/Llagas (Pajaro)	8,766	721
Estimated Totals	**88,452**	**10,875**

[1]Watershed information is not reported for Projects B3 and B7.
[2]Some estimates may have slightly varied from past annual reports due to a refinement of the conversion from tons to cubic yards and the timing of collecting the annual estimates.

E-3: Estimated cost of trash removal activities for Projects B4, B6, and B7[1]

Project	Estimated costs for trash removal	
	FY14-FY19	FY20
B4: Good Neighbor Program: Encampment Cleanup	$6,479,968	$845,455
B6: Good Neighbor Program: Remove Graffiti and Litter[2]	$2,517,113	$639,570
B7: Volunteer Cleanup Efforts and Education	$737,924	$68,000
Estimated Totals	**$9,735,005**	**$1,553,025**

1 Cost information for trash removal activities are not available for Projects B1 and B2 because project budgets are tracked as a whole and not by specific KPI. Grants and partnership cost information for Projects B3 and B7 are included in Table E-4.
2 The Project B6 estimated totals were revised based upon the FY18 audited financials and revised Maximo reporting calculations.

E-4: Trash removal information from partnerships and grants for Projects B3 and B7

Estimated amount of trash and debris removed in Pounds, Tons, and Cubic Yards (CY) [1]									
Project	Grant Cycle	Grantee/ community partner	Grant Project Name	Amount Awarded	Total Project Cost	Status	Estimated Amount of Trash Removed		
							Pounds	Tons	CY
Pollution Prevention Partnerships and Grants (B3)	FY14	San José Parks Foundation	Trash Free Coyote Creek Cleanup and Surveillance Project	$26,783	$80,760	Closed (9/30/15)	82,000	41	410
	FY14	California Product Stewardship Council	Secure Pharmaceutical Collection Bin Expansion	$206,417	$276,352	Closed (10/6/17)	8,929[1]	4.5	45
	FY16	South Bay Clean Creeks Coalition	South Bay Creek Cleanup Program	$60,000	$80,000	Closed (7/21/17)	20,000[3]	10[2]	100
	FY16	San Francisco Bay Wildlife Society	San Francisco Bay National Wildlife Refuge (NWR) Clean-Up 2016	$35,391	$73,390	Closed (3/22/18)	6,280	3.1[1]	31
	FY16	Santa Clara County Creeks Coalition	Trash Free North Coyote Creek Watershed Stewardship and Engagement Project	$89,596	$148,849	Closed (3/15/18)	60,000	30[1]	300
	FY18	Downtown Streets Team	Penitencia Creek Team	$122,280	$190,828	In progress	145,000	72	725[1]
	FY18	Downtown Streets Team	El Camino Clean Up	$122,280	$190,828	In progress	12,654[1]	6	63
	FY18	Santa Clara Valley Transportation Authority (VTA)	Keep Santa Clara Valley Beautiful Project	$78,285	$104,380	In progress	N/A	N/A	N/A
	FY19	City of San José (partnership)	Tully Road Ballfields Creek Cleanup Project	$200,000	$331,900	In progress	N/A	N/A	N/A
	FY20	Guadalupe River Park Conservancy	Reducing the Impacts of Litter Along the Guadalupe River Trail	$90,049	$225,100	Agreement excecution in progress	N/A	N/A	N/A
	FY20	West Valley Clean Water Program Authority	School Site Stormwater Pollution Prevention Plans	$35,088	$78,230	Agreement excecution in progress	N/A	N/A	N/A
Support Volunteer Cleanup Efforts and Education (B7)	FY14	Acterra	Acterra Lower Peninsula Healthy Creeks Project	$68,600	$179,910	Closed (9/30/16)	18,180[1]	9	90[2]
		Clean Water Fund	ReThink Disposable: Preventing Riparian Trash at the Source	$82,133	$174,036	Closed (7/6/17)	24,265	12.1	121
		City of Sunnyvale	Schools Goin' Green	$32,250	$47,448	Closed (6/30/16)	4,189[1]	2	20[2]
		Save the Bay	Clean Bay Project	$60,000	$241,243	Closed (6/30/16)	2,200[1]	1	10[2]
	FY18	South Bay Clean Creeks Coalition	Los Gatos Creek TEAM 222 Project	$15,000	$19,995	In progress	18,000	9[1]	90
	FY18	South Bay Clean Creeks Coalition	Friends of Coyote Creek Watershed North Coyote Creek Stewardship Project	$35,000	$46,665	In progress	40,800	24.4[1]	240
	FY19	Gilroy Compassion Center	South County Creeks Team Project	$30,000	$38,590	In Progress	N/A	N/A	N/A
	FY19	Grassroots Ecology	Young Watershed Stewards Project	$44,301	$167,781	In Progress	N/A	N/A	N/A
						Estimated Total	**442,497** pounds	**220.1** tons	**2,245.00** cubic yards

1 These numbers are the original reported by each grantee. The other numbers were converted by staff.
2 This number was corrected from a previous miscalculation.

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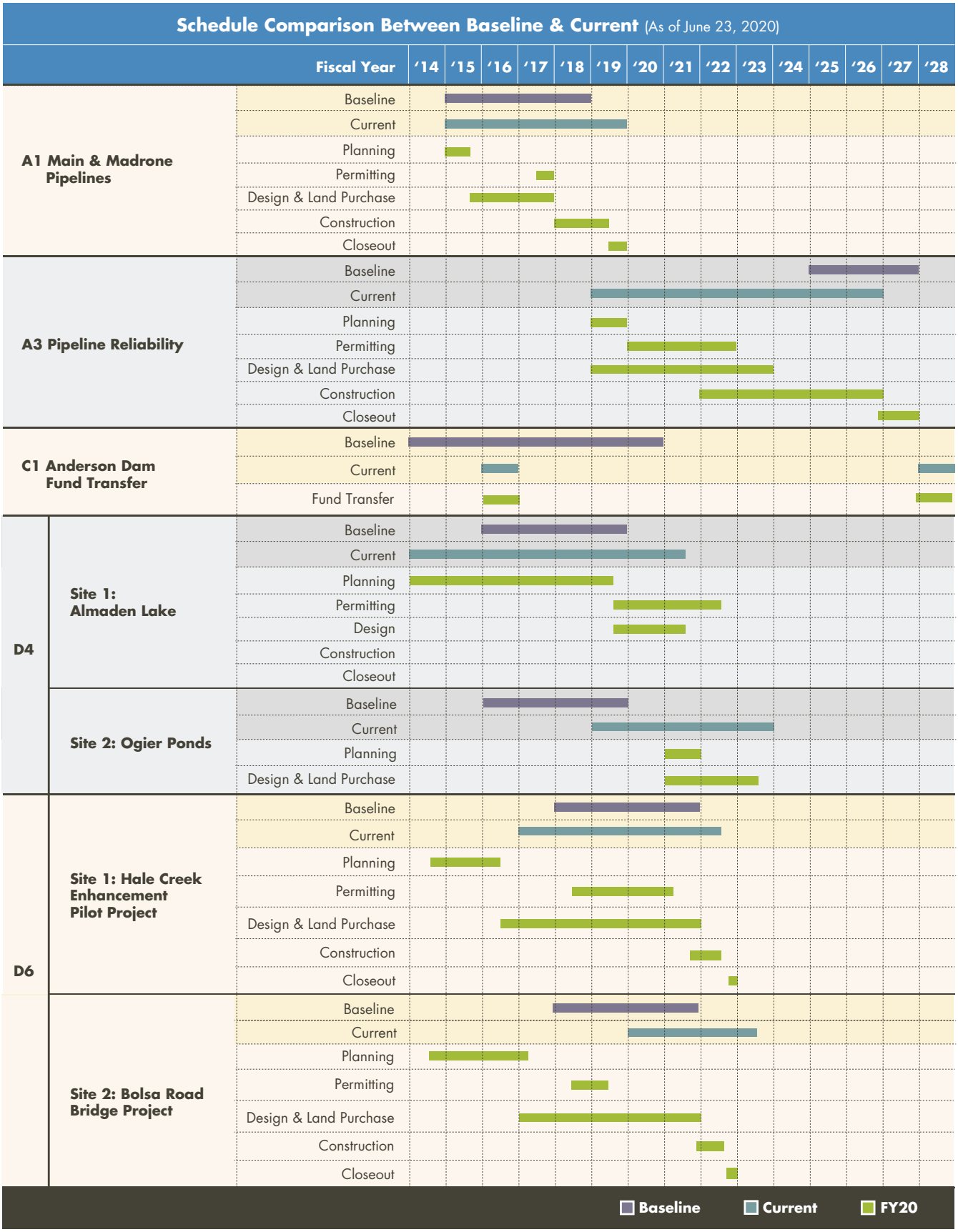
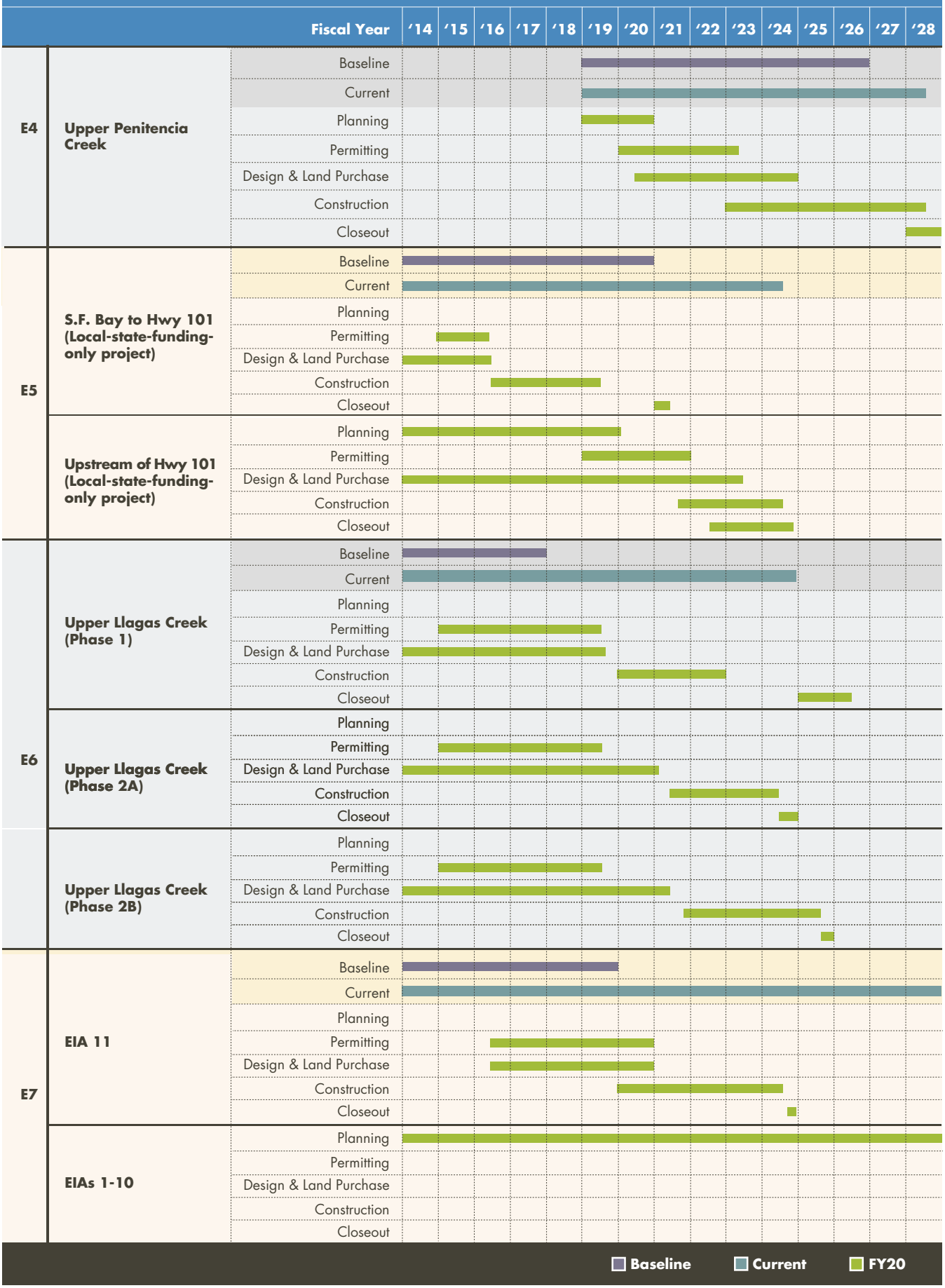
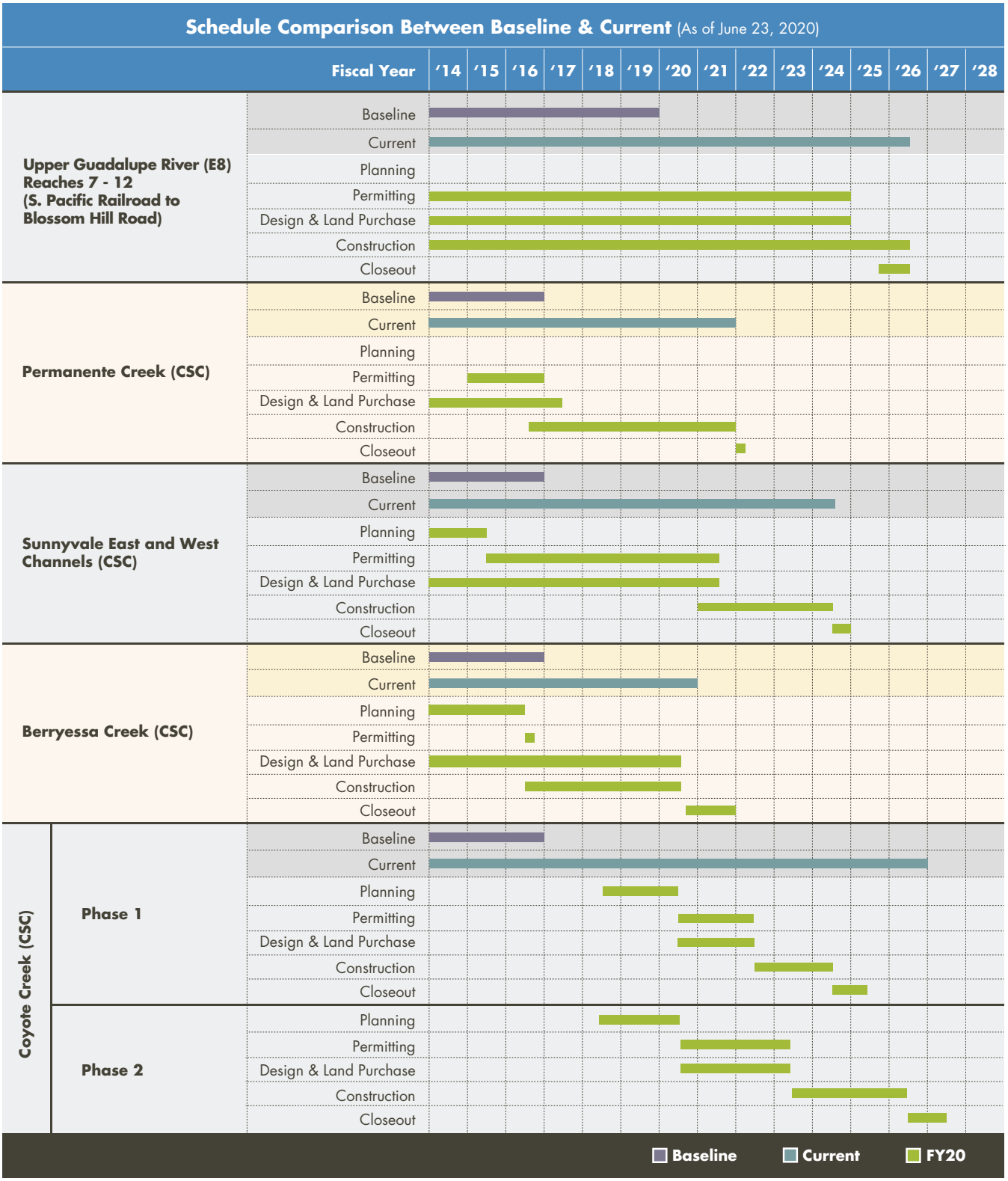
Appendix F: Schedule Comparison for Projects



Schedule Comparison Between Baseline & Current (As of June 23, 2020)




Schedule Comparison Between Baseline & Current (As of June 23, 2020)
Fiscal Year
'14
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
'28
Upper Guadalupe River (E8) Reaches 7 - 12 (S. Pacific Railroad to Blossom Hill Road)
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Permanente Creek (CSC)
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Sunnyvale East and West Channels (CSC)
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Berryessa Creek (CSC)
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Coyote Creek (CSC)
Phase 1
Baseline
Current
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Phase 2
Planning
Permitting
Design & Land Purchase
Construction
Closeout
Baseline
Current
FY20

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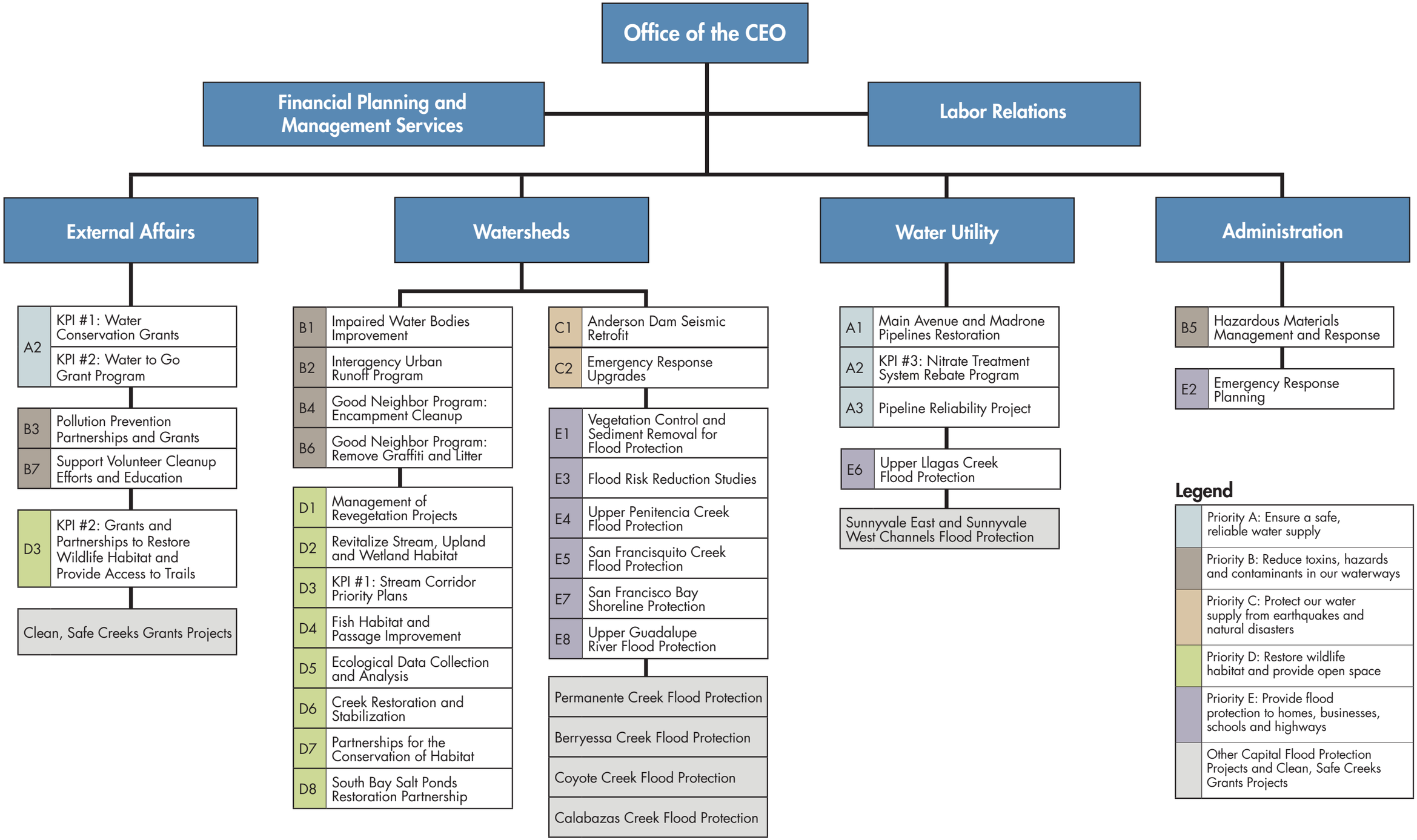
Appendix G: Projects by Organization Structure



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Appendix H: Projects by Valley Water Mission Area

Water Supply

A1	Main Avenue and Madrone Pipelines Restoration
A3	Pipeline Reliability Project
C1	Anderson Dam Seismic Retrofit

Flood Protection

B4	Good Neighbor Program: Encampment Cleanup
C2	Emergency Response Upgrades
E1	Vegetation Control and Sediment Removal for Flood Protection
E2	Emergency Response Planning
E3	Flood Risk Reduction Studies
E4	Upper Penitencia Creek Flood Protection
E5	San Francisquito Creek Flood Protection
E6	Upper Llagas Creek Flood Protection
E7	San Francisco Bay Shoreline Protection
E8	Upper Guadalupe River Flood Protection

- Permanente Creek Flood Protection
- Sunnyvale East and Sunnyvale West Channels Flood Protection
- Berryessa Creek Flood Protection
- Coyote Creek Flood Protection
- Calabazas Creek Flood Protection

Stewardship

A2	Safe, Clean Water Partnerships and Grants
B1	Impaired Water Bodies Improvement
B2	Interagency Urban Runoff Program
B3	Pollution Prevention Partnerships and Grants
B4	Good Neighbor Program: Encampment Cleanup
B5	Hazardous Materials Management and Response
B6	Good Neighbor Program: Remove Graffiti and Litter
B7	Support Volunteer Cleanup Efforts and Education
D1	Management of Revegetation Projects
D2	Revitalize Stream, Upland and Wetland Habitat
D3	Grants and Partnerships to Restore Wildlife Habitat and Provide Access to Trails
D4	Fish Habitat and Passage Improvement
D5	Ecological Data Collection and Analysis
D6	Creek Restoration and Stabilization
D7	Partnerships for the Conservation of Habitat Lands
D8	South Bay Salt Ponds Restoration Partnership
E4	Upper Penitencia Creek Flood Protection
E5	San Francisquito Creek Flood Protection
E6	Upper Llagas Creek Flood Protection
E7	San Francisco Bay Shoreline Protection

- Permanente Creek Flood Protection
- Clean, Safe Creeks Grants Projects

Legend

	Priority A: Ensure a safe, reliable water supply
	Priority B: Reduce toxins, hazards and contaminants in our waterways
	Priority C: Protect our water supply from earthquakes and natural disasters
	Priority D: Restore wildlife habitat and provide open space
	Priority E: Provide flood protection to homes, businesses, schools and highways
	Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects

Please note that some projects have multiple benefits; therefore they are listed under more than one mission area.

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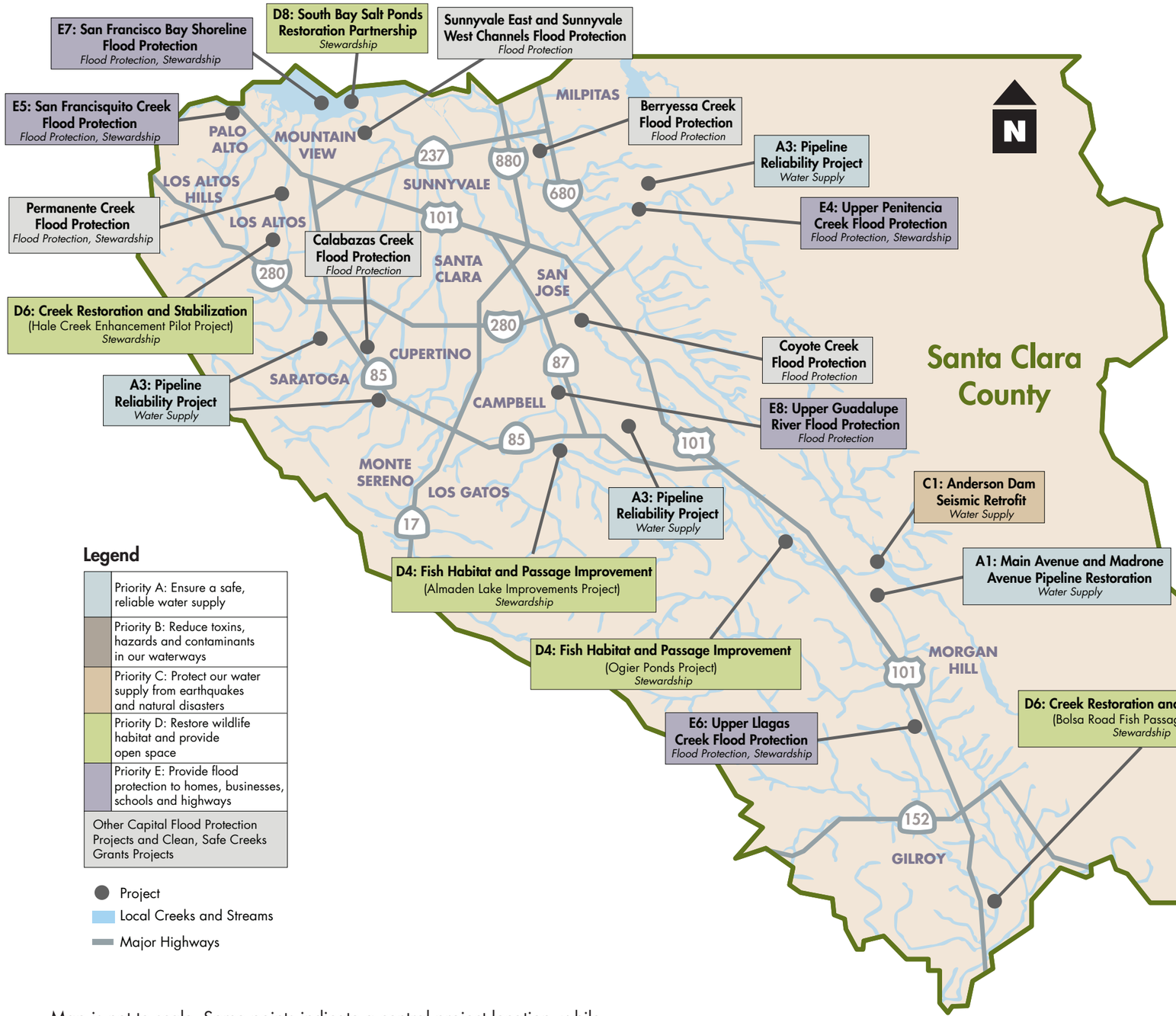
Appendix I: Countywide Map of Projects



Legend

	Priority A: Ensure a safe, reliable water supply
	Priority B: Reduce toxins, hazards and contaminants in our waterways
	Priority C: Protect our water supply from earthquakes and natural disasters
	Priority D: Restore wildlife habitat and provide open space
	Priority E: Provide flood protection to homes, businesses, schools and highways
Other Capital Flood Protection Projects and Clean, Safe Creeks Grants Projects	

- Project
- Local Creeks and Streams
- Major Highways

Countywide Projects

A2: Safe, Clean Water Partnerships and Grants *Stewardship*	D1: Management of Revegetation Projects *Stewardship*
B1: Impaired Water Bodies Improvement *Stewardship*	D2: Revitalize Stream, Upland and Wetland Habitat *Stewardship*
B2: Interagency Urban Runoff Program *Stewardship*	D3: Grants and Partnerships to Restore Wildlife Habitats and Provide Access to Trails *Stewardship*
B3: Pollution Prevention Partnerships and Grants *Stewardship*	D4: Fish Habitat and Passage Improvement *Stewardship*
B4: Good Neighbor Program: Encampment Cleanup *Flood Protection, Stewardship*	D5: Ecological Data Collection and Analysis *Stewardship*
B5: Hazardous Materials Management and Response *Stewardship*	D7: Partnerships for the Conservation of Habitat Lands *Stewardship*
B6: Good Neighbor Program: Remove Graffiti and Litter *Stewardship*	E1: Vegetation Control and Sediment Removal for Flood Protection *Flood Protection*
B7: Support Volunteer Cleanup Efforts and Education *Stewardship*	E2: Emergency Reponse Planning *Flood Protection*
C2: Emergency Response Upgrades *Flood Protection*	E3: Flood Risk Reduction Studies *Flood Protection*
	Clean, Safe Creeks Grants Projects *Stewardship*

Map is not to scale. Some points indicate a central project location, while the geographic area of benefit may be broader. For an interactive map with specific project locations and reaches, visit valleywater.org.

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Appendix J: Glossary

1% flood
A flood that has a 1% chance of occurring in any given year; also referred to as a 100-year flood.

50-year flood
A flood that has a 2% chance of occurring in any given year.

100-year flood
A flood that has a chance of occurring an average of once every 100 years; also referred to as a 1% flood.

Acre-feet (AF)
An acre-foot of water would cover 1 acre of land to a depth of 1 foot. 1 acre-foot equals approximately 325,000 gallons, the average amount of water used by 2 families of 5 in 1 year.

Advanced Quantitative Precipitation Information (AQPI)
A regional project awarded to the NOAA which consists of improved mapping and weather data for estimating precipitation, as well as a series of updated forecasting systems for more accurate weather prediction.

Anaerobic
Defines an absence of oxygen or an organism which does not require oxygen to live.

Atmospheric river (AR)
Long, narrow regions in the atmosphere which transport most of the water vapor outside the tropic regions. When atmospheric rivers face landfall, they deposit most of their vapors in the form of rain or snow.

Aquifer
An underground geologic formation of rock, soil, or sediment that is saturated with water; an aquifer stores groundwater.

Bypass channel
A channel built to carry excess water from a stream, or to divert water from the main channel.

Booms
Increase in populations which signal almost or near-exponential growth.

Trash capture devices
Innovative devices used to capture wastes and trash in bodies of water and on land. Comprise of nets and sharp implements which can snare waste items.

Cleanup
The removal of trash and debris resulting from encampments; by Valley Water or by Valley Water in coordination with other agencies.

Glossary

COVID-19
Disease caused by novel Coronavirus, which has become a pandemic in the United States in 2020.

Diameter at breast height (DBH)
Measuring the diameter of a tree is most often measured at 4.5 feet (1.7m). This specified height is often where data-points such as growth, volume, and yield tables.

Ecosystem
An ecological community of plants, animals, and microorganisms in their environment, functioning together as a unit.

Ecological service index (ESI)
Index used to measure ecosystem services within multifunctional landscapes, typically defined as a synergistic approach to bridge the gap between ecological services and the needs of a particular landscape.

Ecotone
Transition area between two differing ecological spaces. Retains some of the characteristics of each respective ecological space, yet contains species not typically found in either environment.

Encampment (homeless)
1 or more structures occupied by an individual or family that is located illegally on Valley Water or other public property. An area where there are no structures, but where personal property is stored is also considered an encampment.

Environmental enhancement
Action taken by Valley Water that benefits the environment, is not mitigation and is undertaken voluntarily. Enhancement actions may include environmental preservation or creation. In instances where enhancements are located in the same vicinity as a mitigation project, actions must exceed required compliance activities to be considered environmental enhancements.

Environmental Stewardship
To entrust the careful and responsible management of the environment and natural resources to one's care for the benefit of the greater community.

Epilimnion
The upper, wind-mixed layer of a lake which has been thermally stratified.

Erosion
The process by which soil is removed from a place by forces such as water or construction activity, and eventually deposited at a new place as sediment.

FEMA 1% Flood Risk Zone
Per FEMA modeling, this is the area representing parcels that have a 1% chance of experiencing 1 foot or greater flooding in any given year.

Glossary

Fiscal year (FY)
A period that a company or government uses for accounting purposes and preparing financial statements. The fiscal year may or may not be the same as a calendar year. Valley Water uses a fiscal year that begins on July 1 and ends on June 30, which coincides with the State of California's fiscal year. The fiscal year is denoted by the year in which it ends, so spending incurred on November 14, 2015, would belong to fiscal year 2016. The federal government's fiscal year begins on October 1 and ends on September 30.

Fisheries
An area with an associated fish or aquatic population.

Fish and Aquatic Habitat Collaborative Effort (FAHCE)
Seeks to improve aquatic spawning and rearing habitat and fish passage for migration to and from the watersheds of Coyote and Stevens creeks as well as Guadalupe River. Improvements include modifications to reservoir operations to provide instream flows, restoration measures to improve habitat conditions and fish passage, as well as monitoring and adaptive management techniques.

Fish passage
A generic term for several methods incorporated into flood protection projects which allow native fish species to travel upstream to spawn.

Flood
A temporary inundation of inland or tidal waters onto normally dry land areas.

Flood conveyance capacity
The maximum amount of water that can flow through a channel, stream, or culvert before there is flooding of surrounding properties.

Floodplain
The low, flat, periodically flooded lands adjacent to creeks and rivers.

Floodplain management
A city or county program of corrective, preventive and regulatory measures to reduce flood damage and encourage the natural and beneficial functions of floodplains. Careful local management of development in the floodplains results in construction practices that can reduce flood damages.

Floodwall
Walls used as levees to contain floodwaters within a stream. Floodwalls are used when right-of-way is limited.

Geomorphology/geomorphic
The study of the natural relationship between a stream and its bank and bed; pertaining to those processes that affect the form or shape of the surface of the earth, including creeks and streams.

Geotechnical
A field of study which explicitly deals with soil and rock behavior from an engineering perspective. Geotechnical engineers must assess risks such as landslides, slope stability, falling rocks, and avalanches.

Glossary

Groundwater
Water that is found beneath the surface in small pores and cracks in the rock and substrate.

Groundwater Recharge
The addition of new water to an aquifer or to the zone of saturation. See groundwater.

Habitat
The specific, physical location or area in which a particular type of plant or animal lives. To be complete, an organism's habitat must provide all of the basic requirements of life for that organism.

Hydraulics
The properties and behaviors of fluids, such as water.

Hydrology
The behavior (properties, distribution and circulation) of water in the atmosphere, on land and in the soil.

Hypolimnion
Dense, bottom layer of water in a thermally stratified lake. In the summer, lakes separate into layers: epilimnion (top of the lake) and the hypolimnion (bottom), with a thermocline layer in the middle. Typically, the hypolimnion is the coldest layer of a lake in summer and is isolated from surface wind-mixing. During stratification, oxygen can be depleted in the hypolimnion.

Hypolimnion Oxygenation Systems
Commonly used to increase dissolved oxygen concentrations in the hypolimnion of lakes and reservoirs. Benefits include maintenance of an oxygenated source to cool water, decrease in nutrient loading, inhibiting the release of harmful sediments, as well as maintaining a summer habitat for cold-water organisms.

Impaired water bodies
Waters that are too polluted or otherwise degraded to meet the water quality standards set by the State of California. Under the federal Clean Water Act, California is required to develop lists of impaired water bodies, including creeks, streams, and lakes.

Invasive plants
A non-native plant species that has spread into native or minimally managed plant communities (habitats).

Large woody debris (LWD)
The logs, sticks, branches, and other wood that falls into streams and rivers. This debris can influence the flow and shape of the stream channel. LWD plays an important biological role in streams by increasing channel complexity, enhancing fish habitat, and creating diversity in the food web.

Levee
An embankment constructed to provide flood protection from seasonal high water.

Limiting factors analysis (LFA)
An analysis of environmental factor that limits the growth, abundance or distribution of a population of organisms in an ecosystem.

Glossary

Methylation
The complex process by which inorganic mercury in surface water is converted to toxic methylmercury, the only form of mercury that accumulates appreciably in fish.

Methylmercury
An organic, highly toxic form of mercury that easily bioaccumulates in organisms, increasing in concentration as it travels up the food chain. Because of mercury contamination the public is advised against consuming fish caught in some Santa Clara County reservoirs and ponds.

Mitigation
Action taken to fulfill CEQA/NEPA, permit requirements and court-mandates to avoid, minimize, rectify or reduce adverse environmental impacts, or compensate for the impact(s) by replacing or providing substitute resources or environments.

Mitigated negative declaration (MND)
A negative declaration that incorporates revisions (mitigation measures) in the proposed project to ensure that no significant impacts on the environment can or will occur.

Modified floodplain
A flood protection technique where land adjacent to a creek is lowered, allowing floodwaters to spread out over a wider area while containing the flow, and reducing the risk of damaging floods. A modified floodplain is often planted with native riparian species.

Natural flood protection
A multiple-objective approach to providing environmental quality, community benefit and protection from creek flooding in a cost-effective manner through integrated planning and management that considers the physical, hydrologic and ecologic functions and processes of streams within the community setting.

Oxygenation treatment systems
Treatment systems that help increase the relative oxygen levels in a body of water.

Pay-as-you-go
A funding mechanism which collects revenue until sufficient funds are available to begin construction of a project, in contrast to debt financing, in which a large sum is borrowed so that construction can begin sooner.

Permitting requirements
A mechanism used to enforce state and federal laws that protect environmentally sensitive areas. Before moving forward on projects, Valley Water is required to obtain permits from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, NOAA Fisheries, Regional Water Quality Control Board, and the California Department of Fish and Wildlife. Each permit gives the permitting agency an opportunity to attach specific measures to the project to reduce impact on the environment.

Plant palette
A master list of appropriate plants that can be drawn from to create a specific assemblage of plants well-matched to a particular area or project's physical, hydrological and ecological conditions.

Glossary

Preservation
Action taken to protect an ecosystem or habitat area by removing a threat to that ecosystem or habitat, including regulatory actions and the purchase of land and easements.

Reach (creek)
A portion of a creek or watercourse usually defined by both an upstream and a downstream unit.

Respond
For hazardous materials response (project B5) "Responded to" means that responder arrives at site within 2 hours. For litter and graffiti removal (project B6) "Responded to" means that a request for Valley Water action is acknowledged either verbally, in writing, or by email within 5 working days.

Restoration/restore
Action taken by Valley Water, to the extent practicable, toward the re-establishment as closely as possible of an ecosystem's pre-disturbance structure, function, and value, where it has been degraded, damaged, or otherwise destroyed.

Revegetate
To re-establish vegetation in areas which have been disturbed by project construction.

Revitalize
Improve habitat value, particularly in an effort to connect contiguous creek reaches of higher value, by removing invasive, non-native vegetation and diseased and/or non-thriving specimens, applying mulch to suppress weed competition, revegetating sites with native plants, and installing predation prevention measures such as browse protection or cautionary fencing to reduce impacts from animals and vandals.

Riparian
Pertaining to the banks and adjacent terrestrial habitat of streams, creeks or other freshwater bodies and watercourses.

Riparian corridor
The riverside or riverine environment next to a stream channel.

Riparian ecosystem
A natural association of soil, plants and animals existing within the floodplain of a stream and dependent for their survival on high water tables and river flow.

Sediment/sedimentation
Mineral or organic material that is deposited by moving water and settles at the bottom of a waterway. Sediment in a lake, reservoir or stream can either be suspended in the water column or deposited on the bottom. Sediment usually consists of eroded material from the watershed, precipitated minerals and the remains of aquatic organisms.

Special status species
Any species that is listed or proposed for listing as threatened or endangered by the U.S. Fish and Wildlife Service or National Marine Fisheries Service under the provisions of the Endangered Species Act; any species designated by the U.S. Fish and Wildlife Service as a "listed," "candidate," "sensitive,"

or "species of concern," and any species which is listed by the State of California in a category implying potential danger of extinction.

Special tax
Any tax imposed for specific purposes or any tax imposed by a special purpose district or agency, such as the Santa Clara Valley Water District. A special district contemplating a special tax levy must hold a noticed public hearing and adopt an ordinance or resolution prior to placing the tax on the ballot. The ordinance or resolution must specify the purpose of the tax, the rate at which it will be imposed, the method of collection, and the date of the election to approve the tax levy. Approval by a 2/3 vote of the city, county or district electorate is necessary for adoption.

State Water Resources Control Board
The State Water Resources Control Board (State Water Board) was created by the Legislature in 1967. The mission of the State Water Board is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. There are 9 regional water quality control boards that exercise rulemaking and regulatory activities by basin. Santa Clara County is part of 2 regions: Region 2 - San Francisco Regional Water Quality Control Board (north of Morgan Hill) and Region 3 - Central Coast Regional Water Quality Control Board (south of Morgan Hill).

Subvention
Subventions are reimbursements for rights-of-way and relocation costs of channel improvements and levee projects provided to flood control agencies by the Department of Water Resources Flood Subventions Program.

Stream Corridor Priority Plan (SCPP)
A document which identifies priorities for stream restoration and can be a source of information to guide restoration actions by all parties.

Stream maintenance program (SMP)
Ensure flood protection projects continue to function as designed to protect homes and businesses along Valley Water streams. SMP work includes removal of sediment, management of vegetation, clearing of trash and debris, stabilization of eroded riverbanks over portions of 278 miles of creeks in Santa Clara County.

Stratification
Layering that occurs in most sedimentary rocks and in igneous rocks which have been formed at the Earth's surface from lava flows and fragmental deposits. Layers range from several millimeters to several meters in thickness and vary in shape greatly.

Threatened species
A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Total Maximum Daily Loads (TMDLs)
The maximum pollutant load a waterbody can receive (loading capacity) without violating water quality standards.

Glossary

Urban runoff
The water that runs over the impervious areas in cities, collecting pollutants as it flows. Runoff is recognized as a major source of water impairment.

Valley Water 1% Flood Risk Zone
Per Valley Water modeling, this is the area representing parcels that have a 1% chance of experiencing flooding, including less than 1 foot, in any given year.

Watershed
Land area from which water drains into a major body of water.

Watershed stewardship
Protecting and enhancing the county's creeks, streams and water bodies to preserve a vibrant, healthy ecosystem and provide recreational opportunities when appropriate.

Wetland
Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions, as well as the diverse wildlife species that depend on this habitat.

Valley Water

Clean Water • Healthy Environment • Flood Protection

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